CANCER OF THE UTERUS

F. B. JESSETT

BAILLIÈRE TINDALL & COX

Dr. William Watkyns Seymour.
105. Second Street.
Troy. N. Y.
1896.

LECTURES

ON

CANCER OF THE UTERUS.

[DELIVERED AT THE CANCER HOSPITAL, BROMPTON.]

WITH CASES.

BY

FREDERIC BOWREMAN JESSETT, F.R.C.S.,

SURGEON TO THE CANCER HOSPITAL, BROMPTON.

LONDON:
BAILLIÈRE, TINDALL AND COX,
20 & 21, KING WILLIAM STREET, STRAND.
1894.

PREFACE.

THESE lectures, which were delivered at the Cancer Hospital, Brompton, contain a brief description of the different forms of malignant disease of the uterus, their symptoms and treatment, with a pretty full account of the different operations for the removal of disease, as it is found existing in different parts of the organ.

The relative merits of the operation of vaginal hysterectomy and supra-vaginal amputation of the os and cervix are discussed: and in those cases in which neither of these operations are applicable, the method of applying caustics for the destruction of the disease, or the amelioration of symptoms, is described.

In illustration of the treatment advocated, short notes of cases operated upon by the author are appended.

1, BUCKINGHAM PALACE MANSIONS, S.W.,
September, 1894.

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By Frederic Bowreman Jessett, F.R.C.S.,

Surgeon to the Cancer Hospital, Brompton.

LECTURE I.

I have chosen the subject of cancer of the uterus for my lectures, as it is one of the most frequent forms in which the disease comes under our notice, and those who have had any experience of the disease will agree that it is one of the most fearful scourges that suffering women are heir to. I would urge upon you then, with all the force in my power the importance of most careful examination of all cases, and special attention to the smallest detail and symptom which may lead you to suspect the possibility of the existence of the disease.

Age plays an important part, as cancer of the uterus, like cancer of other parts of the body, is far more commonly met with between the ages of forty and fifty than at any other period. This period is that in which all the organs appear to commence to degenerate or atrophy, and it would seem to be that time of life when cancer is specially prone to take root in the system.

At the Cancer Hospital out of 860 cases of cancer which I have tabulated, 476 occurred between the ages of forty and sixty years of age.

	20—30	30—40	40—50	50—60	over 60	Total.
Author ...	31	104	223	253	249	860
Godson	30	165	233	136	36	600
Total...	61	269	456	389	285	1460

Dr. Godson, in six hundred cases he collected at St. Bartholomew's Hospital, has noticed the same average; age, therefore, is an important factor, and in any case of a woman suffering from hæmorrhage between the periods, between the ages of thirty and sixty, a vaginal examination should be insisted upon.

In the first place I propose to discuss some of the remote symptoms which are often present, and frequently are treated for more or less lengthened periods without any suspicion of uterine mischief existing. When attention is, however, attracted to the uterus, some condition such as ante- or retro-flexion, erosion of the os, metritis or incipient carcinoma is discovered: by treating these conditions the symptoms which have been so long a source of trouble disappear.

Now I have no doubt that many cases of incipient granular erosion of the cervix or chronic inflammatory conditions of the endometrium are frequent precursors of cancer, and that by neglecting these minor diseases grave mischief may result which will endanger the patient's life.

In studying the symptoms of uterine troubles one cannot but be struck at the similarity of the symptoms displayed by patients, whether they are suffering from chronic metritis, endometritis, fibro-myoma, or early stage of cancer. Possibly it will be only by close examination that any difference in character or intensity is discovered. And yet, although the general group of symptoms are so alike, it will be found that each form of disease has its own particular symptom more prominently developed—*i.e.*, hæmorrhage in cases of myomata; nervous disorders and pain in those of displacements; and leucorrhœal discharge and hæmorrhage in erosion of the os and cancer.

As, then, cancer of the uterus is often accompanied by displacement, endometritis, and occasionally with fibroids, it is readily seen what difficulties there are to contend with in arriving at an accurate diagnosis.

Leucorrhœal discharge is, I believe, the earliest symptom present in cancer of the uterus, whether commencing at the fundus or at the cervical canal, and this can be readily understood when one remembers that cancer commences in the epithelium lining, the uterine cavity and the glands of the mucous membrane, so that the irritation, the result of the disease, causes a certain amount of endometritis resulting in a catarrhal condition of the mucous membrane lining the cervix, or the uterine cavity.

Leucorrhœa, then, is an exaggerated and morbid alteration of the physiological vaginal and uterine secretions; for, normally, there is always a certain amount of secretion from the mucous membrane lining of both the vagina and

uterus, when this becomes increased or purulent then the term leucorrhœa is applied to it. Vaginal leucorrhœa is a fluid milky secretion which only stiffens linen slightly: it is acid in reaction. Uterine leucorrhœa is yellowish white and only slightly viscid: that from the cervix is gelatinous; normally, it resembles white of egg. It stiffens linen considerably: it is alkaline in reaction.

It is with the uterine leucorrhœa that we are at present interested and no doubt this is the earliest evidence or symptom that mischief of some sort exists in the uterine cavity. Now leucorrhœa in itself is only a consequence of some catarrhal condition of the mucous membrane lining the cervix or cavity of the uterus, and, on examination with the speculum, will be seen exuding from the canal as a viscid gelatinous liquid. But if after treatment this does not abate, then it may be suspected that something more than simple catarrh exists. In cases of carcinoma it will be noticed that the secretion becomes more liquid and yellowish, and with occasionally streaks of blood mixed with it, later a further change takes place and the discharge becomes watery, sanious, and badly smelling.

Besides this local early manifestion there are several other symptoms, the result of reflex irritation, which manifest themselves in neighbouring organs. These symptoms doubtless exist in nearly all affections of the uterus to a greater or less extent, but they must be borne in mind, as it is by having attention called to the uterine affection and by careful examination that we may hope to recognize this terrible disease in its early stage and so be able to deal with it when there is the possibility of doing so.

The most common symptom of these neighbouring organs is connected with the bladder. Women experience a frequent desire to micturate, and frequently suffer from vesical tenesmus: and occasionally cystitis supervenes.

Constipation is frequently complained of, this is the result of the constantly deferred action, as the act of defæcation is accompanied by much pain, therefore patients get in the habit of restraining themselves as much as possible.

Uterine dyspepsia is a most constant symptom of uterine irritation, and one the importance of which cannot be over-estimated. The overlooking of this symptom has

often resulted in grave disaster—and yet how easy it is to connect the disease of the uterus to the digestive system, if it is only borne in mind the close relation of one to the other through the sympathetic nervous supply. If it is remembered the close connection between the gastric irritation, as exemplified by nausea and vomiting, connected with the early stages of pregnancy, it can be readily understood how constant uterine irritation may be the cause of reflex digestive disorders.

This subject has been recognised by gynæcologists now for a length of time, and it is no uncommon thing for a patient to consult one after they have been the round of the general physician, and been treated for a considerable period for ordinary dyspepsia, when on careful examination it is found that she is suffering from extensive erosion of the os; flexion of the uterus; or metritis, and possibly carcinoma.

I will not detain you by alluding to other reflex symptoms, such as respiratory reflexes; reflexes of the cerebral and peripheral nervous systems, neuroses of genital origin, but these must be always borne in mind as possibly being due to some uterine trouble.

So much then for the early general and local symptoms which may result from uterine irritation, and which, if thoroughly recognised, may be the means of our discovering cancer of the organ before it has advanced so far as to be beyond our control.

It will be convenient here to define exactly what is meant by the term cancer, and for this purpose I will adopt the definition of Dr. John Williams, as given to it by one school of pathology.

Cancer then is a new growth, possessing malignant properties—*i.e.*, it possesses the power of invading neighbouring tissues, and of reproducing itself in the form of secondary growths in other and distant parts. By accepting this definition it will be seen to embrace all forms of malignant disease, whether carcinoma, sarcoma, or epithelioma.

Sarcoma is a growth of the connective tissue type, and invariably, I believe, commences in the structure of the connective tissue in the body of the uterus. Although this form of malignant disease is usually present in young subjects, when affecting different parts of the body, in the

uterus it is very frequently found in elderly patients. During the last few months I have had three patients suffering from this form of disease, all of whom were over sixty years of age. I believe that sarcoma attacks the uterus much more frequently than has generally been thought. Since I have taken especial interest in uterine cancer I have found that quite a third or fourth of the cases of malignant disease of the body of the uterus are sarcoma.

Carcinoma.—All carcinomata contain epithelial elements and are formed of epithelial cells bound together by a network of vascular connective tissue, or to put it in another way, all these tumours are formed of bands of connective tissue which interlace with each other, forming a network or framework between the meshes of which are packed groups of epithelial cells of different shapes. Carcinoma usually commences in the cervical canal or body of the uterus, either from the lining mucous membrane or the glands in the mucous membrane.

Epithelioma is of rare occurrence and when present always originates on the external os.

It will considerably facilitate the description of the different forms of cancer as they affect the organ, and indeed it is necessary for an intelligible description to divide the uterus into three portions—viz., *the vaginal portion; the cervical portion;* and *the body.*

The vaginal portion embraces that portion only which its name implies, and is limited above by a line drawn from the external orifice to the insertion into the vagina. This part is covered with squamous celled epithelium, this form of epithelium ends at the external orifice, and then the transitional commences, which, as Dr. John Williams observes, often disappears and is replaced by a glandular erosion which is covered with columnar epithelium, and the columnar epithelium meets the squamous without the interposition of the transitional form.

The cervical portion is limited below by the vaginal portion, and above by a line drawn transversely through the inner orifice. At this point the columnar epithelium ends and the tubular glands characteristic of the decidua begins.

The body of the uterus is that portion which is situated above the cervix. Cancer, as it affects either of these parts,

may present different characters, and may be classified as scirrhus, encephaloid, medullary, epithelioma and sarcoma, but it is not so much of the different forms of cancer that I propose to speak, as to the parts in which they originate and are located.

Cancer of the vaginal portion.—The disease is rarely found to originate on this portion of the organ, this has been fully borne out by the researches of Ruge Veit, John Williams, Schroeder, Leopold and others; although the disease frequently invades the part by growth from the cervical portion.

When it does exist I believe it nearly always originates in some crack or erosion of the os which has been the source of irritation. Patients suffering from cancer of the portio vaginalis often have no symptoms whatever to lead them to suspect the presence of the disease. Although they undoubtedly have suffered from leucorrhœal discharge for some considerable time. Yet this is such a common complaint with women that they take but little notice of it, and probably the first, or at any rate, the usual symptom that attracts attention is hæmorrhage, sometimes occurring spontaneously, sometimes after coitus, and yet, many of the cases, when an examination is made, are found to be suffering from extensive disease, perhaps the walls of the vagina being implicated.

If these cases had been examined at an earlier stage how much could have been done, possibly erosion of the os or fissures is the precursor in many of these, and how difficult it is in such cases even by most careful examination to decide when the erosion or fissure has taken on a cancerous action, but yet how important it is for the welfare of the patient that a correct diagnosis should be formed. And here I would counsel you that in all cases of doubt to remove a small portion for microscopic examination, and if any doubt exist as to its true nature to at once perform amputation of the neck of the uterus well above the diseased parts. Practically, there is no risk in such an operation, and I am of opinion that in all cases wheer there is extensive erosion and cracking with thickening and infiltration of the tissues of the cervix, that it is good practice to remove it by amputation. The form of cancer that is most commonly found attacking the *portio vaginalis* is "epithelioma."

Cervical portion.—We must now pass on to the consideration of the disease as it attacks the cervical portion. Here again it is most difficult clinically to differentiate between an erosion, an adenoma, and carcinoma. In what way clinically does one differ from the other? Dr. John Williams describes an erosion as an extension of mucous membrane of the cervical canal through the external orifice on to the lips, which are, in health, covered with stratified epithelium. In some cases, no doubt, simple hypertrophy of the mucous membrane of the canal resembles an erosion. A true erosion, however, is described as consisting of a structure like that of the mucous membrane of the cervix placed on a surface which, in health, is covered by squamous epithelium. It may be and often is associated with hypertrophy of the mucous membrane at the lower part of the canal. It contains glands lined by columnar epithelium, and its surface is covered by epithelium of the same character.

An erosion differs from cancer in that the epithelium on its surface and lining, its glands consists of a single layer and assumes no aberrant forms; and from an adenoma of the cervix in that the glands are comparatively superficial. It will be seen then that in erosion the glands are considerably increased in size and number, and I have but little doubt that many cases of cancer of the cervix commence as erosion, for not only do these glands increase in number, but they also develop in places where glands do not exist in health.

It is in the epithelium lining of these glands that the chief changes take place in cancer, the cells which constitute a single layer in health become stratified and increased considerably in number, often breaking down the whole lumen of the gland. The nuclei in the cells proliferate, and the cells become altered in shape, then become elongated, and assume an appearance of strings of cells dipping downwards into the deeper structures, and the epithelium itself becomes flattened, so as to have the appearance almost of squamous-celled epithelium. And it is only by tracing it to its origin that the true character can be ascertained.

The part at which cancer of the cervix commences is in the cervical glands. Dr. John Williams goes so far as to say he has never seen a case commencing in the epithelium

of the surface, but it may and undoubtedly does frequently commence in the glands close to the surface, and when these cases come under our notice they are so far advanced that it is most difficult to say where the disease commenced. The part of the canal which is usually attacked first is the lower half, although of course it may commence at any spot. The posterior lip appears to be attacked more frequently than the anterior, and it is of the utmost importance to remember that no matter in what manner the disease originates, it, I believe, invariably extends downwards and outwards at first, although it may grow in an upward direction later.

The symptoms of both these forms of disease are most obscure and more frequently than not, it is far advanced before advice is sought, and yet how many cases there are who consult their ordinary medical attendant for leucorrhœal discharge or perhaps slight hæmorrhage, and are provided with an astringent injection and a tonic, and are sent away being assured that their symptoms are entirely due to weakness, and the poor deluded woman continues to take her medicine and use the injection in the fond hope that all will come well presently. The discharge, however, continues; after a time weight and dull pain in the back are complained of with forcing bearing down pains. The bladder becomes irritable, and a constant uneasiness in the epigastric region is noticed, which is attributed to indigestion. Then usually the discharge is noticed to be tinged with blood, or there may be a sudden rush of blood or metrorrhagia. Even then often no examination is made and the patient is treated with steel and ergot, presently the discharge is noticed to be rather offensive, and the sense of forcing pain, weight and pains in the legs, more frequently the left than the right, and hæmorrhage after coitus draws more especial attention to the local condition, and at last a vaginal examination is made. And then it is that the grave nature of the disease is discovered. And only too often it is found to have extended to such a degree that the uterus is fixed, probably the vaginal walls invaded, and it is too late to do anything more than adopt palliative measures for the relief of pain and the keeping parts as clean as possible.

Such is the sad picture that is constantly brought before our notice both privately and at this hospital. Let me

again impress upon you therefore the paramount importance of early examination of these poor women when they consult you, suffering from symptoms of uterine mischief.

Now in cases of cancer of either of these two portions of the uterus, *i.e.*, the *portio vaginalis* or the cervix; if early examination is made the disease is readily recognised, or at any rate such a condition of things is found that would justify one in removing a small portion for microscopical examination when the nature of the disease will be at once ascertained—and in such a case by free removal of the parts by supra-vaginal amputation the disease may be thoroughly removed.

During the last five years I have performed supra-vaginal amputation for cancer of the cervix on over fifty cases of either cancer of the portio vaginalis or the cervix, with a death-rate of four per cent., and it will be instructive here to give you short histories of some of these cases selecting two typical cases of the disease as it attacks these parts separately. The cancerous nature of which were confirmed by microscopic examination.

Case 1.—Mrs.——, æt. at sixty-one, married; several children. Vagina free, the external os is ulcerated, the ulceration extending into the cervical canal. Bleeds freely on examination; much induration. On July 26, 1889, I performed supra-vaginal amputation of the cervix. The patient made an excellent recovery, and remained free from the disease until her death, which took place some two years afterwards from bronchitis. By the courtesy of Dr. McCaskie, whose patient she was, I was enabled to get the uterus, which contained not the slightest trace of disease.

Case 2.—Mrs. H., æt. at thirty-nine, four children. Always had rather hard labours. Has had leucorrhœal discharge since last child, two years ago. The discharge has always been yellowish, and latterly with occasional streaks of blood. Has had constant wearying bearing down pains. Menstrual flow quite regular. No extra pain at these times. No pain on coitus, latterly, however, has noticed slight bleeding afterwards, but took little notice of it until about three months ago when she consulted her medical man. No examination was made, and she was ordered an astringent injection which at first appeared to give her relief. She continued this until coming to consult

me, her reason for doing so being that after coitus she had rather a sharp attack of hæmorrhage. On vaginal examination the posterior lip is found to be thickened and rough, deep ulceration extending into cervix. Bleeds readily on touch. Vagina free. Uterus movable. Supravaginal amputation was performed on December 2, 1889. There was some free hæmorrhage which was arrested by plugging. Wound healed well and the patient has no recurrence at present time, over five years after operation.

These are two typical cases of many that have presented themselves, and illustrate well what I have said.

CANCER OF THE BODY.

We will now pass on to the important consideration of cancer of the body of the uterus, and this is the more important, as often even with the most careful examination the disease may be overlooked.

Happily the disease attacks this part of the uterus much less frequently than the vaginal portion or cervix, and at one time it was even questioned if the body ever was attacked primarily. Now my experience leads me to think that the body is much more frequently the seat of the disease than is generally supposed.

I have operated on six cases for cancer of the body of the uterus, and now present for your inspection the specimens I have removed. Perhaps the most typical case is that of Emily C——, æt. sixty-two, single. Admitted into the Cancer Hospital February 10th, 1894, suffering from cancer of the fundus. *Family history:* Mother died of cancer of the liver. The patient has had a discharge for some twelve months. About six months ago it became very offensive, and occasionally tinged with blood. She complained of pain at the lower part of abdomen and back; had lost flesh considerably, although she never was very stout. On November 27th, 1893, she went into the Samaritan Hospital, when the cervical canal was dilated, and the uterus explored; some soft growth was scraped away for microscopical examination.

On admission she was seen to be a very emaciated-looking woman. On vaginal examination it was found that she was suffering from a badly smelling discharge; the vagina was very small. The cervix feels healthy, and the uterus is found to be freely movable, and not appreciably enlarged.

Examination causes much pain. A foul discharge is seen to be exuding through the os. I performed vaginal hysterectomy upon this patient on February 20th, and she has made a very good recovery, leaving the Hospital five weeks after operation.

Another case, Frances St. J——, was very instructive, as showing the presence of the disease quite in its early state and complication with fibroids. She was aged forty-four years; married; four children. Admitted into the Hospital on January 4th, 1894. The patient merely complained of great pain in lower part of abdomen. Very slight, rather faintly smelling, discharge. By vaginal examination the cervix feels hard, and os thickened and eroded. Body of uterus enlarged; some bosses felt on posterior surface of uterus. Sound passes $3\frac{1}{2}$ inches. Vaginal hysterectomy was performed on January 9th. The patient made an excellent recovery, and was discharged three weeks after operation.

On opening the uterus there were evidences of early carcinoma. Mr. Plimmer, pathologist to the Hospital, has made careful microscopic examination of this, and pronounced it to be early adenoid carcinoma.

Here then was a case that was seen quite in its early stage, and cancer was suspected, hence the operation of hysterectomy was performed and the diagnosis confirmed, and the operation justified by the microscope.

The disease usually attacks the body of the uterus after the menopause; in fact, I have not met with one case occurring before this period. Mr. John Williams' experience tallies with mine in this respect. Ruge and Veit have reported two cases as occurring under the age of forty: one was between forty and fifty; six were between fifty and sixty, and seven were between sixty and seventy. Dr. John Williams reports three cases: one fifty-three years of age, one fifty-four, and one sixty-nine. My cases were one forty-three, one forty-four, one fifty-two, one fifty-five, one sixty-two, and one sixty-three. In all these cases I removed the uterus, and all made good recoveries. So that it is important to remember that cancer of the body of the uterus is rare before the menopause.

The first symptom that usually draws attention to the disease is hæmorrhage; women after the menopause notice bleeding, at first slight or in gushes, or only tinging the

discharge which probably they have had, but attributed to "whites" for some considerable period. They often take no notice of it, thinking that it is "nature" shewing itself again; some women are rather pleased at it, supposing themselves to be becoming young again. Always take it as a most serious symptom, therefore, if a woman consult you after the menopause suffering from hæmorrhage: always insist on a vaginal examination, and do not be deluded because you find the os and cervix normal, but thoroughly examine bi-manually, and if there is much pain in the examination do not hesitate to make a thorough examination under an anæsthetic, as it is only by such an examination that you can hope to make a correct diagnosis and at the same time ascertain if the case is one in which an operation for total extirpation is justifiable. Another symptom is pain, often a forcing bearing-down pain, lasting sometimes for a considerable time, at others for a shorter period. The jolting of a cab or omnibus often increases this pain which is due, I suspect, to the contraction of the uterus endeavouring to expel the growth.

In all cases of doubt it is well, when the patient is under an anæsthetic, to dilate the cervix and remove with a curette a portion of the contents of the uterus, for it must not be forgotten that hæmorrhage, pain, and offensive discharge from the uterus, may be occasioned by endometritis of old age, and is also present in certain forms of ulceration of the cavity which is looked upon as lupus.

As to the origin of cancer of the body it is, no doubt, often associated with fibroids. In the case I have just mentioned to you, there were a number of fibroids present. Ruge and Veit think the disease occasionally commences in polypi of the uterus. Dr. John Williams has recorded such a case in which a mucous polypi was removed from the cervix while undergoing the process of becoming a cancer. Or the disease may develop from the first in the form of a polypi. In the case I saw with Dr. Gross, the patient, æt. 62, had bleeding and discharge, and it was, on examination, concluded she had cancer of the body of the uterus. On examination under an anæsthetic I found the uterus full of a pulpy mass which readily broke down under the finger and had all the appearance of blood clot, this being removed I came down upon two what seemed to be distinct polypi, these I removed. The patient rapidly

convalesced. I had these growths examined microscopically and they were pronounced to be small round-celled sarcoma.

This patient had a rapid recurrence and a few months after I removed the uterus and appendages per vaginam. The patient again convalesced quickly, but the disease recurred in the broad ligament in a few months and the patient died.

Cancer, when originating in this manner, is usually circumscribed and will be found on section of the organ to be attached to some part of the uterine cavity by its pedicle the growth itself fungating from this and filling the cavity.

The disease, however, is often diffuse, in which case it nearly always commences on the glands or, it may be, in the epithelium lining the cavity. The uterus is usually enlarged and elongated. As the disease extends the walls of the uterus become involved and the muscular coat becomes thinner and thinner, and then the uterine peritoneum becomes adherent to the viscera, and it is no uncommon thing for a loop of intestine to be adherent. The disease, as it extends, does not invade the cervix until quite late, but it would appear to extend to the broad ligament, and often to the bladder and rectum, the organ becoming completely fixed. In a case I had recently under my care such was the case: the disease extended to the bladder first preventing the power of expulsion of the urine, the patient was obliged to have her urine constantly drawn. It then apparently caused blockage of one ureter with consequent hypertrophy of the opposite kidney. After a few months the disease extended and evidently blocked the mouth of the remaining ureter, with the result of uræmia, coma, and death.

TREATMENT.

We will now pass on to the treatment of the disease as it is found attacking the different parts of the organ, and here the advantage of dividing the organ into sections is most manifest as it is obvious the treatment of cancer of the portio vaginalis, the cervix and body being free, must differ essentially from treatment of the disease when the body alone is attacked.

The treatment of cancer of the uterus is a subject which has occupied the attention of both physicians and surgeons

from time immemorial, and although many suggestions have been made, no permanent benefit has been obtained, and these poor suffering women who were the victims of this terrible disease perished unrelieved.

I have examined the uteri of a large number of cases, who have died in the hospital, with a view of ascertaining the cause of death, and found that a large number died from uræmic poisoning, caused by obstruction to the ureters, by growth or pressure of the disease, others died from secondary growths, and some died from septic mischief and exhaustion. I was much struck, however, by the limited extent of the disease in the body of the uterus. In many cases, which from clinical examination, it was supposed the whole organ was affected, it was found that the disease was limited to the external os and cervix, but it had extended into the cellular tissue around the cervix, implicating the ureters, or had implicated the vaginal wall, in many advanced cases invading the bladder in front or the rectum behind.

Acting upon the information thus obtained, I came to the conclusion that for practical purposes it would be well to divide the disease into four divisions:—

1. Those cases in which the disease is limited to the portio vaginalis.

2. Those cases in which the cervix and body of uterus is implicated. The organ being readily drawn down to the vulva.

3. Those cases in which the disease has extended beyond the uterine substance into the surrounding cellular tissue, causing the viscus to be more or less fixed, and perhaps the roof of the vagina slightly involved.

4. Those cases in which the disease extends beyond the above limits, invading the vagina, and possibly the bladder or rectum, or indeed both of these organs.

The rational manner of treating cancer of the uterus must be based upon the same lines as treating the disease when attacking any other organ of body. If a patient consults one suffering from cancer of the breast, tongue or elsewhere, free extirpation of the disease is advised.

The same rule must hold good then in the advice you give for the treatment of cancer of the uterus. Free removal.

Of course, if on examination the parts are fixed, the vaginal wall implicated and the disease has infiltrated into the cellular tissues around the cervix, then the removal by extirpation becomes inadvisable if not impossible, in the same manner as cancer of the breast, where the mammary gland is fixed to the chest wall and the axillary and cervical glands invaded, the question arises can anything be done in these cases, and here I should be guided entirely by the extent of the disease. If the bladder and rectum appear to be free from infection, I think a great deal may be done by the judicious application of caustics or the galvano-cautery.

If, however, these viscus are affected or the whole parts are so absolutely fixed as to render the application of these caustics to be fraught with great uncertainty, then there is nothing to be done but to keep the parts as clean as possible by injection with some antiseptic fluid. I prefer sanitas fluid, the keeping the bowels quietly opened and the free administration of opiates by the mouth, or hypodermically if the pain is very excessive, or in the form of suppositories.

The method of syringing the vagina is a matter of great importance. I do not consider the placing the patient on a bed pan and using the vaginal tube sufficient, as there is always a lot of débris, and sloughs which this will not remove. But I consider the syringing, at least once or twice a day, should be done through a Fergusson's speculum and then with pieces of cotton wool on uterine forceps, the cavity should be wiped thoroughly out, by this means a large amount of badly smelling débris will be dislodged. Then the cavity should be thoroughly dusted with iodoform or a tampon of wool soaked in equal parts of pinus canadensis and glycerine, or smeared over with an ointment composed of

Sanitas oil ..... ℥i.
Zinc chlorid. ..... gr. x.
Vaseline ..... ℥i.

should be introduced into the cavity.

This should be removed night and morning; the vagina being douched on each occasion, and the cavity wiped out with cotton-wool before the introduction of a fresh tampon. By adopting this simple plan of treatment the sloughs become dislodged, and a clean ulcerated surface disclosed.

In most of these cases benefit will be derived by the application of a strong solution of chromic acid (ʒ ii.— ʒ i.) to all the diseased surface after the parts have been thoroughly dried, being careful not to allow the solution to run on to the healthy tissues; these can be protected by the application of pieces of cotton wool soaked in a saturated solution of carbonate of soda, and finally some tampons should be placed in the vagina and left until the next day.

All offensive smell disappears, and the pain and bladder irritation are relieved.

The disease will be considerably retarded in its growth, and the patient's appetite will return, and the general health improve, owing doubtless to the non-absorption of the poisonous discharge.

Perfect rest should be insisted on, and the general health attended to by the administration of appropriate tonics, attention to the bowels, and if pain is present and prevents sleep, small doses of morphia may be advantageously given.

Many extreme cases treated in this manner have expressed themselves as greatly relieved, and have left the hospital much improved in general health.

The question next arises, Can nothing be done for this terrible disease by the means of drugs? Numerous drugs have been credited with ameliorating the suffering of patients, retarding the disease, and, indeed, in some cases of curing it. I need not go through the whole category of these remedies; it would be weariness and certainly not profitable.

The drug that hitherto has been credited with giving the best results is chian turpentine, as suggested by Dr. Clay. This drug, like all others, has been the source of much disappointment, but still in many cases if it has not arrested the disease, it certainly appears to have the power of relieving pain. Dr. Clay has reported several cases in which he claims that cure has been effected.

The emulsion, as suggested by Dr. Clay, is very nauseous, and the turpentine has been made in the form of pills, but if these are not freshly made they become so hard that I think they merely pass through the intestinal canal unaltered.

Pyoktanin is another remedy which has been credited with the property of curing cancer; its supposed power seems to be based upon the manner in which it attacks the cells when used for staining microscopic specimens. It is ordered to be injected into the cancerous mass, and also to be taken internally.

M. Narm (Bucharest) read a paper on the treatment of malignant tumours of the mouth, parotid gland, cheek, and of the uterus by injection of a solution of violet of methyl (1-100). Each day he injected from half a drachm to three drachms of the liquid into the morbid tissue. Out of 25 cases treated ten were claimed to be cured, while the remainder were much benefited. The liquid, while destroying the morbid elements, did not have any effect on the healthy parts, differing thus from caustics, which act on sound and diseased tissue alike.

I have used this in some cases, and in one or two small cases of sarcoma it certainly appeared to have a good effect in one case in particular, a small recurrent sarcoma in the cheek. The disease totally disappeared, and did not return for over a year, when it recurred and was again injected, and has not returned since some two years ago. For uterine cancer I have packed the cavity in some cases with gauze soaked in solution of pyoktanin, but it did not appear to do much if any good, and it played such havoc with the linen that I abandoned it.

I have of late, however, been employing some tabloids which have been made for me, consisting of a mixture of chian turpentine, ichthyol and pyoktanin. I have treated several cases with these tabloids, and I must confess with much benefit, and I am looking forward with great interest, hope and expectation that these tabloids if they do not cure these cases, at any rate will greatly relieve them. Time will show.

In cases not quite so advanced as these I have just alluded to much good may be hoped for by placing the patient under an anæsthetic and freely applying a galvano or thermo-cautery.

If the disease is limited to the vaginal portion of the uterus it may be attacked by the galvano-cautery, passing the needles into different parts of the disease, tolerably close together, over and over again. The action of the galvano-cautery, as thus applied, it must be remembered, is by

direct cautery action, and not by the destruction of the cells by the galvanic current.

I adopted this method of applying the cautery in the first instance, in the hopes that the cells might be destroyed by galvanic action without causing necrosis of the tissues by the cautery action but was disappointed. This form of application has, however, I think this advantage, that the needles can be inserted to an ascertainable depth into the diseased parts and the cautery action extends to a very limited extent beyond that. This form of treatment may be adopted in certain forms of cancer of the os or cervix by introducing one electrode into the cervical canal and then inserting the needle of the other electrode into the diseased tissues around the cervix. The cautery action is again exemplified hereby, in some cases, the os and cervix sloughing out in the course of a few days.

Paquelin's cautery, I think, is a better form of application for such cases if the cautery is to be adopted at all. The patient being placed under an anæsthetic is put in a lithotomy position by means of Clover's crutch and the diseased parts thoroughly scraped with a sharp spoon, or curette, then the cautery is applied at a white heat. This application may have to be applied several times and is not very satisfactory.

In all cases I would suggest a long course of treatment by the administration of the tabloids I have already referred to, as it is quite possible, if the system can be generally affected by the drugs, it may be the means of destroying any outlying cells which may have been left.

The best form of treatment, undoubtedly, in all cases in which the disease is limited to the portio-vaginalis, is, to perform amputation of the affected parts by cutting through the vaginal mucous membrane around the os, well free of the disease, and separating the cervix from the surrounding cellular tissues and amputating through the cervix.

Should the cervical canal be slightly implicated, the amputation can be carried higher by removing a cone-shaped piece from the uterus above the internal os.

Should the cervix be infiltrated with the disease then nothing short of vaginal hysterectomy or removing the entire organ should be sanctioned.

The mortality of this operation in experienced hands is not nearly so great as was supposed, and I believe with

care that the mortality may be reduced to about 5 to 8 per per cent. In twenty-seven cases of complete removal of the uterus per vaginam which I have performed, I have only lost two cases from the operation. When it is remembered we are dealing with a disease which is sure to end fatally if left alone, and not only so, but the death is usually associated with the most terrible suffering, I say this mortality is not worth consideration. The important question to be considered is, undoubtedly, how many of these poor creatures are cured, and how many have recurrence of the disease and at what periods? These are questions which I propose to discuss in my next lecture together with the details of the performance of these operations.

LECTURE II.

THE TREATMENT OF UTERINE CANCER BY OPERATION OR OTHERWISE, WITH SPECIAL REFERENCE TO VAGINAL HYSTERECTOMY.

In my last lecture I narrated to you the history and symptoms of cancer of the uterus as it attacks different parts of the organ. I further discussed the palliative treatment of those cases in which the disease invades the vagina and surrounding cellular tissues, the uterus being quite fixed, so that any attempt at a radical operation must be of necessity impracticable.

To-day I propose (1st) to narrate to you the form of treatment which has been fairly successful in my hands of those cases in which the disease has extended beyond the uterine substance into the cellular tissues around the cervix, thus causing the viscus to be more or less fixed, and perhaps the roof of the vagina slightly involved.

I have tried numerous forms of treatment in these cases that have been suggested and practised by different surgeons, but one after the other I have ceased to adopt them, as in none did any good result, and in many the disease seemed to be stimulated to increase with greater rapidity than if left alone.

It was with feelings of despair that I entered my uterine ward, feeling that all I could do was to alleviate the sufferings of some of the poor women who occupied the beds, but as to any further aid I felt I was utterly powerless to assist them.

Of late, however, a new era seems to have opened up, and I now undertake the treatment of many of these cases with full hope and expectation of, in some instances, eradicating the disease, and in others of considerably retarding it, and in all, of giving immense relief from pain and an improvement in general health.

In adopting the treatment I am about to describe, I was in the first instance struck by the fact that in many of the most advanced cases of uterine cancer which died, the body

of the uterus was often apparently free from disease. The disease appeared to have commenced in the cervical canal and then extended downward to the external os, and then eaten its way through the cervix and extended laterally into the cellular tissues surrounding it, and from thence along the broad ligaments.

Now, if the disease were attacked before it extended along the broad ligaments, and before the bladder or rectum was affected, I thought I saw my way to cope with it. In the first place the thorough curetting away of all the soft diseased tissues was imperative. Then to find some form of caustic, and method of applying it to the cavity caused by the removal of the disease, so as to burn deeply into the surrounding tissues into which the disease might have invaded.

With respect to the curetting, I found the curettes by themselves were ill-adapted to the purpose, as they removed the diseased tissues unevenly. I next turned my attention to Bell's dredgers, but found these did not fulfil all I wished, as they were too pliable and their calibre was too small. The idea then occurred to me if I could have an instrument constructed somewhat after the principle of Bell's dredger, that I could increase the size of by means of a screw in the handle, and furnished with watch-spring knives so shaped as to enable me to scrape out the contents of the uterus by simple rotations, I should have made a considerable advance, and should be able to accomplish all I required. Such an instrument was made for me by Messrs. Maw, Son, and Thompson, and, as you will see, is worked by means of the screw at the end of the handle. By means of this screw the blades, which when first introduced lie flat on the central rod, are made gradually to expand until they represent an area of about one and a half inches in diameter. Here, then, I was furnished with an instrument by means of which I was enabled to remove the whole contents of the uterus with comparative ease, and, as the blades are not too sharp, no mischief can be done with them, and very little bleeding follows its use.

The next question which arose was the form of caustic and the method of its application. And here I followed in the steps of Drs. Marion Sims and Heywood Smith. I

adopted the use of absorbent wool soaked in a saturated solution of chloride of zinc and then dried. The caustic applied in this form had the advantage of being readily packed. Before packing the uterus all bleeding must be arrested, as it is essential that the raw surfaces should be fairly dry before applying the caustic. The best method of arresting the hæmorrhage is to apply locally sponges wrung out in very hot water, or, failing this, apply a sponge which has been soaked in tincture of matico. When the oozing has been sufficiently arrested, the chloride of zinc wool is packed in small pieces, firmly, so as to completely fill the cavity. The preparation of this wool is difficult, and of late I have been in the habit of using the chloride of zinc paste freshly made, and then applying a ring pessary with thin rubber diaphragm over the opening, so as to ensure the full action of the caustic to the vaginal border. A dry wool tampon is next applied to the opening in the vagina, and lastly the vagina is packed with tampons soaked in a strong solution of carbonate of soda. These tampons can be removed the day following the operation, but the chloride of zinc packing must not be removed for at least three days. This wool is most conveniently removed by Marion Sims's screw, which is a long straight rod with a very fine double screw at the top. After the removal of the plugs the vagina and uterus must be kept constantly syringed out with some antiseptic solution, preferably either solution of iodine or carbolic acid, through a full-sized Fergusson's speculum.

As a rule, the slough caused by the caustic comes away in about ten days or a fortnight, when a healthy granulating surface is left. Should there be any suspicious spot, it will be well to pack the cavity again. This can be readily done without an anæsthetic through a full-sized Fergusson's speculum.

Should any nodule be seen projecting it can be readily destroyed by injecting a few drops of solution of chromic acid (℥ ii – ℥ i) into it, this causes the nodule to shrivel up and come away in a few days.

In a case recently under my care, after the slough had detached itself, a large boss was seen growing rapidly from the posterior wall of the vagina, this I injected with five

drops of chromic acid solution and it dried up and became detached in about five days.

The following two out of a number of cases, all of which were markedly benefited by the treatment, will illustrate the usefulness of this method.

Case 1.—Mrs. S——, aged seventy, consulted me on Feb. 3rd, 1892, suffering from carcinoma of the cervix uteri.

I performed supra-vaginal amputation of the os and cervix. The patient made an excellent recovery. In November of the same year, there being some bleeding from the uterus, I examined her and found recurrence of the disease extending into the uterine cavity. The patient suffered much pain and discomfort. Considering the age of the patient, I did not think the removal of the entire uterus justifiable. Moreover, the uterus was somewhat fixed by the extension of the disease. I therefore, with the assistance of Dr. Heywood Smith, thoroughly scraped and dredged the uterine cavity, and then packed with chloride of zinc wool, as above described. At the end of a fortnight I removed a thick slough, which represented a cast of the inside of the organ. The uterus and vagina were kept constantly syringed out three times a day with a solution of carbolic acid. The patient made an excellent recovery, and had no local return of the disease. She, however, died in May, 1893, from secondary growths in the liver and lungs.

The following case, for the notes of which I am indebted to Mr. West, my house surgeon, have been treated in the Cancer Hospital during the last year.

Case 2.—Rebecca H——, aged thirty-three, married, six children, one miscarriage, admitted into Burdett-Coutts Ward, on January 4th, 1893, complaining of pain in the back and left iliac region, and of discharge from vagina, which patient has noticed for the last ten months.

Menstruation has been irregular during that period, severe floodings alternating with amenorrhœa; has lost much flesh.

Present condition.—There is a mushroom-shaped soft growth in the situation of the vaginal portion of the cervix which has ulcerated. The growth extends on to the posterior vaginal wall. The uterus is somewhat fixed

On January 24th, 1893, under ether, all the soft parts of the growth was scraped away with the dredger, and the whole of the interior of the uterus was also scraped, which left a crater-like cavity. The cavity was then plugged with dry wool, which had previously been soaked in a saturated solution of zinc chloride and allowed to dry. A dry tampon of wool with a string tied to it was then passed and the vagina filled with plugs squeezed out of a strong solution of bicarbonate of soda.

The patient had very little pain after the application of the caustic.

January 25th: All the vaginal tampons removed except one and the vagina well douched out three times a day.

January 27th—The zinc chloride wool removed from the uterine cavity. The uterus well douched out through a Fergusson's speculum.

January 28th: Much offensive discharge: otherwise patient experiences little discomfort. Temperature 99.8° F. Vagina well syringed out through a Fergussons's speculum three times a day with 1 to 40 carbolic.

January 30th: A whitish slough came away from the vagina, being a cast of the ulcerated cavity.

February 1st: Patient much better; no discharge to speak of; and states she suffers no pain. On vaginal examination the cavity feels soft and healthy.

February 13th: Patient discharged; feels much better in general health; no pain or discharge to speak of.

August 2nd: She has reported herself from time to time and still keeps in good health.

There is a firm cicatrix at seat of cauterization. No discharge.

This patient is still attending at the out-patient department and there is no recurrence of the disease in *in situ*.

The treatment of such cases as these is naturally attended with much anxiety, and, indeed, uncertainty. The caustic must be most carefully applied on account of the many important parts that are in close proximity: the bladder, the rectum, and the ureters. In two of my cases the slough extended into the rectum, causing a recto-vaginal fistula.

It is very extraordinary how little pain these patients suffer from the application of the caustic, and the day following operation patients who have suffered much before the application express themselves as free from pain.

I will next discuss the treatment of those cases in which the disease is limited to the portio vaginalis or cervix, the body being free the vaginal walls not implicated and the uterus freely movable. In these cases the operation of supra-vaginal amputation gives excellent results.

SUPRA-VAGINAL AMPUTATION.

In December, 1892, I read a paper at the British Gynæcological Society giving details of twenty-five cases of supra vaginal amputation of the cervix for uterine cancer. Of these fifteen recovered and have presented themselves for examination from time to time since. All these are still well and free from any recurrence, the time which has elapsed since the operation on these cases varies from three to eight years. One case remained free from the disease for two years when recurrence occurred. In five cases recurrence took place within one year. Two cases were lost sight of but were free from recurrence when last seen; and two died, one from pelvic cellulitis and the other from the extent of the disease. This last case should not strictly be included in the series as the disease was far too extensive to allow of simple supra-vaginal amputation.

Seven cases out of the twenty-five which either died or had early recurrence were clearly not benefited by the operations, or in other words they were unsuitable for this special form of operation. Six of these seven cases, from my later experience might, I think, have been benefited had vaginal hysterectomy been performed.

Since reporting these cases I have operated in a similar manner upon thirty-three others with the same percentage of deaths, viz. : 4 per cent.

Now, before proceeding further, it will be well to define the meaning of the term supra-vaginal amputation : It must be thoroughly understood that it is not merely the amputation through the cervix for the removal of the external os and lower part of the cervix, but for the removal of the entire cervix, with, in most cases, a large cone shaped piece

out of the body of the uterus. I am quite in accord with John Williams, Schroeder, and Hofmeir, whose statistics go conclusively, I think, to show that when carcinoma of the uterus is seen early, and the disease is limited to the vaginal portion of the organ, supra-vaginal amputation is all that is necessary, and it is useless to run the extra risk of total extirpation. Gusserow gives the mortality after supra-vaginal amputation when performed by the knife as 9·09 per cent.

METHOD OF PERFORMING THE OPERATION.

The patient being placed in the lithotomy position, the legs supported by a Clover's crutch, the vagina is first thoroughly douched out with carbolic solution (1-40) and perfectly cleansed by means of stick sponges. Two Sim's specula are now introduced, and the edges of the diseased os seized by two or more pair of Vulsella forceps, by means of which the diseased cervix is drawn well down through the vulva. A sound is next passed into the bladder to define its relation to the cervix. The mucous membrane is to be divided as far away from the disease as possible, usually, I think, a line just where the mucous membrane of the vaginal wall ceases, and it becomes reflected over the neck of the uterus is the best, the scissors, which, by the by, I always use, should be long and strong and bent on the flat, the points, after the mucous membrane is divided, should be kept just in the muscular tissues of the uterus as near to the outer border as possible, and the scissors carried by a succession of short snips evenly round and round the part to be excised. In this way there is no difficulty in arriving at the internal os, here is the crucial point, and if it is found necessary to go beyond this great care will have to be exercised, as the point of the scissors may readily cut through into the peritoneum. Some surgeons lay great stress on this danger, but as a matter of fact in performing supra-vaginal amputation, Douglas's pouch is much more frequently opened than not. Some surgeons suggest that this should be stitched up. I never adopt this practice, and have hitherto seen no bad result follow. Strong traction should be used upon the os with Vulsellum forceps, and it is often well to introduce a sound into the uterus to serve as a guide. Any bleeding points should be caught and tied. If, however, as is occasionally the case, the hæmorrhage is

profuse, the uterine arteries must be secured; this is rarely necessary. In some cases in which the hæmorrhage proceeds from points situated in the uterine wall it will be found most difficult to ligature the vessels; in such cases one or two or three plans may be adopted, one is to leave the forceps hanging for a period of twenty-four hours, the other to pack the wound with gauze soaked in a tincture of matico, or to apply Paquelion cautery freely.

In cases of women who have not arrived at the climacteric period, and in which the operation has not extended beyond the internal os, the endometrium not being entirely removed, it is always wise to introduce a vulcanite stem into the uterine cavity, and to have this removed and replaced each day, thus preventing the wound on healing from closing the outlet of the uterus, as in many cases might take place. By not attending to this precaution I have seen, in several instances, very great discomfort, and, indeed, risk to life.

After the operation is completed, and all bleeding arrested, I am in the habit of passing a stout long chromic gut suture through the anterior and posterior lips of the opening made into the uterus. This has been, on more than one occasion, the source of great help in those cases in which secondary hæmorrhage has set in. In such, if this precaution is not taken, it is often most difficult to get at the stump to examine from whence the bleeding proceeds, as in all these cases the fundus and stump of the uterus recede considerably, and it is a great comfort to be able to examine it merely by means of traction of the sutures which pass through the stump, instead of having to grope about through a speculum with Vulsellum forceps.

In the after-treatment I consider that the parts should be thoroughly syringed out night and morning through a *full sized Fergusson speculum.* Simple irrigation without the speculum is not sufficient, as often clots may be collected above the opening in the roof of the vagina, and without these are thoroughly removed and the parts cleansed, septic mischief is very likely to follow.

A few words as to the class of cases in which supra-vaginal amputation of the cervix is applicable, they may be summarised by saying that, in my opinion, if a case of carcinoma of the uterus, in which the disease is limited to the vaginal portion of the viscus, and the fundus to all appearance being

free, the uterus movable, and the vaginal walls not implicated, such a case is suitable for supra-vaginal amputation, and good results may be anticipated; and by this operation I mean not only amputation through the neck of the uterus, but a good sized conical piece being removed from body of the viscus, extending, if necessary, to the fundus, and certainly well above the internal os.

Allow me here to say a few words as to the immediate risks of the high operation. They may be summed up as being limited to hæmorrhage and sepsis. With respect to hæmorrhage, I have seen cases in which very smart bleeding has occurred during the performance of the operation, this can usually be readily controlled by passing a ligature round the uterine arteries, or by the free application of the cautery. In some cases secondary hæmorrhage has caused trouble, but in such the bleeding can invariably be arrested by plugging the vagina.

From the second danger, sepsis, I have lost one patient, from pelvic cellulitis, the result, no doubt, of sepsis. To avoid this, care must be taken to plug the cavity created by the removal of the diseased cervix with iodoform gauze, and not remove it for the space of three or four days, unless the temperature warns you to remove it earlier. The vagina should be kept constantly syringed out through a full-sized Fergusson's speculum twice or three times a day with some antiseptic solution.

In discussing the method of performing supra-vaginal amputation there are two or three plans advocated by different surgeons who practise this operation, some advocating the use of the galvano-cautery, while others prefer the knife or scissors.

Dr. Baker[1] reports that in two series of cases, in the first, covering a period of five years, ending 1882, he had twelve cases of cancer of the uterus by the high operation, and in the seven subsequent years he had operated on sixteen cases by the same operation. Of the first series, 50 per cent. remained well at the end of twelve years. In one case he had to re-open the cervix for the escape of retained menstrual blood. In the second series, operated on from 1882 to 1889, in all sixteen cases, he had no death from the

[1] *Americal Journal of Obstetrics*, vol. xxvi. p. 1224.

operation, and in ten cases no recurrence of the disease. One case was well at the end of seven years, three at the end of six years, three at the end of three years, and one at end of two years.

Fifty-three per cent. were well at the time of his reading the paper, the remainder had died of recurrent disease. These operations were done by the removal of the diseased tissue with scissors or the scalpel, the cautery being applied to the raw surface.

Dr. Reamy,[2] of Cincinnati, in reporting a number of cases, also strongly advises the use of scissors or scalpel. He was in the habit of closing the wound in the vagina with sutures and so obtaining primary union. In our own country, Dr. John Williams[3] and myself also strongly advocated the removing of a conical piece of the uterus with scissors beyond the cancerous tissue.

Dr. John Byrne[4] prefers the use of the galvano-cautery. He says "there are only two surgical measures worthy of mention to choose between at the present day, these are first the high amputation or excision as the case may be, by galvano-cautery, not only of all diseased parts, but as much more and beyond the supposed danger-line as can be safely taken away, the removal to be followed by a thorough *dry-roasting* of all exposed surfaces, or, secondly, vaginal hysterectomy with the more attractive surgical clamour and ghastly records of lives shortened and often sacrificed on the altar of what, now-a-days, is called progressive gynæcology."

Dr. Byrne's statistics are most brilliant. In nearly 400 cases he has not had a single death due to operation! In forty out of sixty-three of cancer of the *portio vaginalis*, twenty-three having strayed away, periods of exemption from the disease are reported, ranging two to twenty-two years, being an average for each case over nine years. Of eighty-one cases, involving the entire cervix, thirty-one were lost sight of, ten relapsed within two years, five had no recurrence for two years, two for eleven years, one for thirteen years, and one for seventeen years; so of the fifty cases of this class, whose histories could be followed up, there was an average period of exemption for each of nearly six years.

[2] Gynæcological Trans. Amer., vol. xiii.
[3] Harveian Lecture, *Lancet*, vol. i., 1887.
[4] *Brooklyn Med. Journal*, vol. vi. p. 741.

In this county, Dr. Lewers[5] reported, at the Royal Medical Chirurgical Society, the result of nineteen cases on which he had operated by scissors and the cautery with no deaths; six of these had been operated on over two years, and were reported as being free from recurrence.

Gusserow gives the mortality after supra-vaginal amputation at 9.07 per cent. when the knife is used, and 7.75 after galvano-cautery. This would appear from the above remarks to be far above what may be expected, and if suitable cases are selected I am sure the mortality will not exceed 4 per cent.

It will be seen then that supra-vaginal amputation for uterine cancer in suitable cases is an eminently satisfactory operation.

VAGINAL HYSTERECTOMY.

We will now proceed to consider the class of cases which are suitable for total extirpation.

Dr. Martin, of Berlin, says "I recommend the vaginal extirpation of the uterus as the operation, as the means which we ought to apply in cases of cancerous diseases of the uterus as long as the disease is limited to the organ itself."

Dr. Skeen, Brooklyn[6], speaking of vaginal hysterectomy, says "the operation in my opinion is indicated when the disease is near to or after the menopause. When it begins in the endometrium, more especially in the body of the uterus. . . . When the diagnosis being made and the vaginal wall and fallopian tubes are not involved, and before necrosis has began in any part of the abnormal tissue."

Now with regard to the immediate recovery, it has been well pointed out by Dr. W. A. Duncan there would be great risk in accepting statistics, of getting the mortality inherent to the operators and not the operation, and I think the rule laid down by Mr. Lawson Tait seems reasonable; it consists in only dealing with results obtained in the practice of those surgeons whose ability and experience are affirmed.

If the surgeon is at all doubtful as to the limits of the disease, *i.e.*, if the disease having commenced in the cervix

[5] Royal Med. Chir. Trans., vol. lxxvi. p. 101.
[6] *Med. Record*, New York, vol. iv. p. 29, 1891.

or external os, and he is uncertain as to how far it has extended into the body of the uterus. Total extirpation should be practised, for as the results of my cases show, and which is confirmed by Leopold, Kaltenbach, D. de Ott, Pean, Pozzi, Japp Sinclair, Lewers, and others, the immediate mortality in suitable cases from vaginal hysterectomy in experienced hands may be looked upon at from 5 to 8 per cent.

I think then we may adopt the rule: *That when the disease has extended beyond the cervical canal, or has commenced in the fundus of the uterus, and the uterus itself is freely movable and readily drawn down to the vulva, that such cases are suitable for operation. But if the disease has extended to the broad ligaments, or if the vaginal wall is seriously implicated, or if we can feel any enlargement of the lumbar or sacral glands and the uterus is fixed, then it will be wise to either leave matters alone or adopt some palliative measures, to which I have alluded.*

With regard to the question of recurrence after operation, it is difficult to lay down any rule, as it is impossible to estimate how far the lymphatics may be involved or the disease extended into the loose areolar tissues around the neck of the uterus. But we may be guided to a large extent by the nature of the malignant growths which exist, and for this purpose I think we might do much if we, as a preliminary measure, satisfied ourselves on this point by obtaining a small scraping and having it examined microscopically. I think it will be found that some of these rapidly growing medullary carcinomata or small round-celled sarcomata recur very much more quickly and certainly than adenoid carcinoma or epithelioma. With regard to the length of time patients live after the operation of supra-vaginal amputation of the cervix and total extirpation of the organs, there are no statistics to guide us, but judging from the statistics recorded by Hofmeier, which my own experience thoroughly agrees with, of the comparative length of time that patients remained free from recurrence after total extirpation and supra-vaginal amputation of the cervix it would appear that such is the case.. From these statistics embracing entire operations and partial ones from the practice of Schroeder, it will be seen that the percentage of cases in which patients were free from the disease at the end of one

year was in favour of total extirpation of the organ, yet each year after this the advantage gradually decreased, until at the end of the fourth year not one of the cases of total extirpation were free from recurrence, while 41.3 per cent. of those cases in which partial removal of the organ had been practised were well.

Now there appears to be two ways of explaining these statistics, one is that in those cases in which partial removal was practised, the disease was recognised and removed before the lymphatics became affected. The other explanation is that in the cases of partial removal, the disease was either epithelioma or adenoid carcinoma, while in many of those in which the whole organ was removed the disease was either sarcoma or medullary carcinoma.

I think it will be found that a large number of cases of malignant disease of the uterus are sarcomatous, much more so than is generally imagined. Of those which I have operated on two-thirds were pronounced by the pathologist to be suffering from sarcoma.

In one case of sarcoma the disease returned at once, and I shall watch with interest to see how long the other cases remain free from the disease. I consider this a very important point, and if it can be proved that these rapidly increasing growths do return quickly it is a question if the case so affected should be subjected to operative interference at all, or at any rate only when seen quite early. This point is one well worthy of study.

METHOD OF PERFORMING OPERATION.

The next question we have to discuss is, what is the best method of performing the operation?

The patient should have, for some days previously to operation, the vagina thoroughly douched out with either perchloride of mercury solution or strong carbolic acid solution 1-40. On the day previous to the operation a dose of castor oil or a good dose of salts in a tumblerful of hot water should be given early in the morning, and on the morning of operation a large enema should be administered.

Early on the morning of operation some good strong beef tea should be given and beef tea enema about four hours previously to the operation. And just before the patient is

placed on the table an enema of three ounces of beef tea and one of brandy should be administered.

The patient should be placed on the table in the lithotomy position being fixed by means of a Clover's crutch. The vagina is then to be well washed out with a strong solution of carbolic acid 1-40. A Sim's speculum introduced into the vagina and the edges of the diseased uterus seized with vulsellum forceps by means of which the uterus should be drawn well down towards the vulva.

A bladder sound must next be introduced into the bladder to define its relation to the cervix or uterus. This having been ascertained, the mucous membrane of the vagina is to be divided as far away from the diseased part as possible and the cellular tissues around the cervix be detached just as in the operation for supra-vaginal amputation.

The bladder being pushed well forward with the finger or blunt end of scissors ; the peritoneum will then be recognised in the front of the uterus, this must be divided freely. The next step is to open the peritoneum in Douglas's pouch. This being done, by placing the forefinger of the left hand into the peritoneal cavity in front and the thumb behind, it is easy to grasp the broad ligament. The uterus being now drawn well down and a few snicks made with the scissors on each side the uterine arteries will be readily recognised. I then pass my long needle smoothly up upon the uterus in front, then the point being felt just above the uterine arteries is depressed and forced through the broad ligament the point being brought into the vagina through the posterior opening in Douglas's pouch. This is threaded with No. 4 Chinese silk and withdrawn, the ligature is tied tightly about an eighth of an inch from the uterus. A pair of pressure forceps applied between the ligature and uterus and the parts divided with scissors. The same manœuvre is carried out on the other side. The uterus will now be found to be quite freely movable and it is an easy matter in those cases in which the uterus is not enlarged and the vagina is fairly large to either ante-vert or retro-vert the uterus. All the vulsella forceps that have been on are to be removed. The uterus being turned over so as for the fundus to be in the vagina the ovaries and tubes are readily brought into view and the ovarian arteries ligatured and the broad ligament divided on each side.

The uterus then is removed and all bleeding being arrested the cavity of the abdomen is flushed out with sterilized water, or a weak solution of boric acid. The anterior and posterior flaps of the peritoneum are seized with forceps and drawn well down, a glass tube inserted and the vagina packed with iodoform gauze. Finally, a winged catheter is placed into the bladder, and a morphia and belladonna suppository into the rectum, and the patient returned to bed with hot water bottles around her. If all goes well the dressing should not be removed until the third or fourth day.

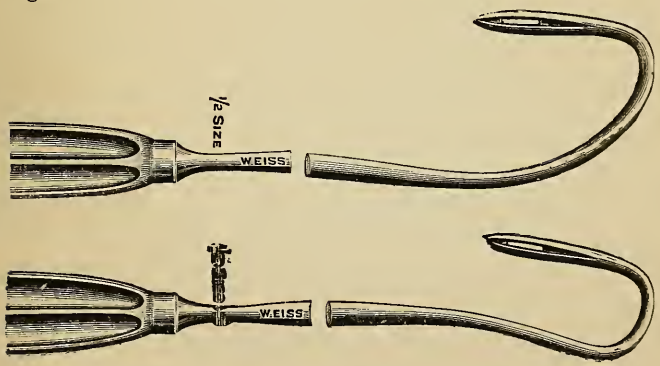
In those cases in which the uterus is very much enlarged it may be necessary, indeed, it is more easy, to perform the operation by, in the first place, freeing the cervix and ligaturing the uterus, per vaginam, and then opening the abdomen in the middle line and ligaturing and dividing the broad ligaments through the abdominal opening and removing the uterus through the opening.

In some cases of elderly unmarried women it will be necessary to divide the perineum to obtain room for manipulation. This, however, should never be done if it can be avoided, as there is always the risk of tearing into the rectum. In connection with the operation several important questions of detail arose.

First, should the hæmorrhage be controlled with clamp and forceps, or should the surgeon only adopt the use of the ligature? In the *Archives Générales de Medécine*, G. Richellet ("Annals of Surgery," vol. xvii, part 9, p. 334) has furnished an article based upon his experience acquired in 225 operations of vaginal hysterectomy, in which he had eleven deaths. Operations, as the writer says, "were made under the most varied and dangerous conditions, having never declined to operate when there seemed a chance of recovery for the patient." This operator appears to use the clamp exclusively for arresting hæmorrhage. Pean and others also adopt the use of the clamp. My own experience is that in all cases where a ligature can be applied it should be. It is all very well to say that the use of the clamp saves time, and acts as drainage, so they may, but, as I have shewn in another place, the results after the use of the clamp are not so good, and this can, I think, be explained by the fact that to the patients the retention of a large

number of forceps for thirty-six or forty-eight hours is painful, the risk of hæmorrhage on their removal, although not great, at any rate exists; and lastly the necrosed portion of tissues which have been compressed by the clamp remain in the wound after removal, and may act as a fruitful source of septicæmia. Moreover, with these forceps in the vagina the peritoneal wound is kept open, and the risk of intestinal adhesions or peritonitis is considerably increased. Further, one or both ureters might be compressed by the forceps, as has to be done on occasions by the most experienced surgeons. I have had some forceps made for me by Messrs. Weiss, which in certain cases of short, thick, broad ligaments can be readily, and I think advantageously, applied.

Now, there is a considerable difficulty in many cases in applying the ligature. To get over this I have had these needles made, which, you will observe, are fashioned in such a manner that there is a long arm from the bend in the needle to its point; it is also furnished with a large eye so as readily to be threaded. These needles can be easily slipped over the uterus and made to pierce the broad ligament at the spot desired, the point being brought out into the vagina and threaded. By this means I find it very much easier to ligature the uterine arteries and lower part of the broad ligature than by any other needle I have seen. This being accomplished in those cases when the uterus is not large it can be readily either retro- or ante-verted, and the ovaries, arteries, and remainder of the broad ligament ligatured.



Should the Ovaries and Tubes be removed? In the majority of cases in women who have passed the climacteric I should certainly say no, but in younger women if the ovaries present into the wound I do not think the risk to the patient is increased by their removal. I have but little doubt, however, that they become atrophied in a very short while after the uterus is removed, and cause no trouble by being retained. Dr. W. Duncan has, however, reported a case in which there were three very sharp attacks of pain, that correspond exactly with the menstrual periods, showing indubitably ovulations with circumscribed peritonitis.

I have now a patient from whom I removed this large sarcomatous uterus who suffers periodically in the same way; the mammæ also becoming enlarged and painful and she also suffers from severe headaches at these times.

Drainage.—The question of drainage as in abdominal operation is one which has not been as yet settled. In the cases I have operated on I used drainage in some and not in others. In one case that died I am very strongly of opinion that I lost her because I did not drain. The rule that I have adopted is that in those cases in which the diseased uterus is removed without difficulty, I merely pack the vagina with idoform gauze, and do not introduce a drainage tube, but those in which there is much tearing or difficulty in getting the uterus out I consider should always be drained by the introduction of a glass drainage tube, which can be emptied every six hours, as may be necessary. I prefer a glass drainage to rubber tubes, for the reason that they do not collapse when the vagina is packed, and being firm any oozing is suppressed by means of the pressure that is exercised. The tube can be removed at the end of twenty-four or forty-eight hours if there is no sero-sanguineous fluid. A narrow slip of gauze should be introduced into the tube.

The Treatment of the Peritoneal Flaps.—The next point of importance, and this is one to which too much attention cannot be paid, is the treatment of the peritoneal flaps. It has been suggested and practised by some surgeons, especially on the Continent, to unite these flaps by a continuous suture; others leave them alone. I have found by experience that the first of these two lines of practice is

unnecessary, and the other is fraught with great danger. Now, if you will examine the position and condition of these flaps after the uterus is removed, you will find that invariably the peritoneum is curled up and doubled upon itself thus, so that if they are left alone the whole raw surface has a tendency to drain into the peritoneal cavity, moreover, should there be any oozing into the peritoneum this very doubling up of the flaps would be apt to prevent its discharge through the vagina; there is great danger also of a knuckle of intestine becoming adherent to the wound, and trouble created by this. It is the want of attention to this detail that has led to disaster in many cases. To overcome this I invariably catch the edges of the flaps with long curved forceps, fixing two pairs of forceps on to each flap, I then draw these firmly down, keeping the ends of the forceps approximated, and then pack strips of iodoform gauze firmly on each side of the flaps, so as to cause the peritoneal surface to be brought into accurate opposition. By adopting this practice there is no necessity to unite the flaps by suturing. Should the drainage tube be inserted I pull the flap well down just the same.

Flushing the Peritoneum.—Before finally packing the vagina, it is of the greatest importance that the peritoneum should be thoroughly well flushed out with sterilised water, as often small clots of blood or débris are left in the cavity.

Packing the Vagina.—Finally the vagina is packed firmly with strips of iodoform gauze, iodoform being puffed into the canal as each strip is inserted. A winged soft rubber catheter should be inserted into the vagina, and the patient returned to bed.

The immediate mortality after total extirpation of the uterus by Continental surgeons is reported to have decreased to about 10·5 per cent. as a general average, while certain operators claim to have succeeded in reaching a death rate as low as 3 or 4 per cent. In comparing the comparative merits of such operations as supra-vaginal amputation of the cervix uteri for cancer and total extirpation of the uterus for the same disease, not only must the immediate mortality after the operation be taken into consideration, but also the state the patient is left in.

Now, in dealing with this operation we must compare only those cases in which the operation has been performed

for cancer, we must have no watering down of statistics by the addition of operations which have been done for minor ailments; we must also of necessity confine our remarks to those cases in which the disease is limited to the vaginal portion of the uterus, as it is obvious if the body of the uterus is involved the high operation is not practicable, and the only operation that can be practised with any hope of relief must be that for total extirpation of the organ.

Now, for a few minutes, let us examine into the dangers which may follow total extirpation of the uterus; they are by no means either few or trivial.

Intestinal Obstruction has been met with on several occasions after vaginal hysterectomy, the result of adhesion of a loop of intestine to the edges of the wound caused by the removal of the uterus. In the *American Journal of Obstetrics*, vol. xxiii., Dr. Coe has reported two cases which occurred in his own practice, and eight which he collected from other sources. In all of these laparotomy was performed for the relief of the obstruction with fatal results. The pathological conditions and clinical symptoms were almost identical in these cases; in each case there was an adhesion of one or more coils of intestine to the edges of the vaginal wound, with distension and bending of the gut above the point of adhesion, thus obstructing the lumen. Although there was intense congestion of the serous coverings of the intestine, in neither instance was general peritonitis found at the operation. In all but one case death seemed to be due primarily to exhaustion, or in those cases in which laparotomy was performed, to the shock of the operation. The symptoms continued indefinite until the fourth day, and the classic symptoms of intestinal obstruction, especially fæcal vomiting appeared when it was too late to profit by them.

A similar case occurred to me only the other day, a comparatively easy case for operation. The uterus which I have here was removed, there was very little hæmorrhage, but the ometum came down into the vagina. This was pushed back. On the second day the patient had vomiting, but no tympanitis. The symptoms increased, and on the fifth day became urgent. I opened the abdomen, and found the omentum strongly adherent to the wound in the vagina, binding down a loop of intestine. I released this,

and the next day the bowels were opened freely, but the patient succumbed, and died of exhaustion.

Dr. Cullingworth, in giving the subsequent history of four cases of vaginal hysterectomy, says two enjoyed perfect health until within a few days of their death. In each of these cases death resulted from intestinal obstruction, the cause of which in one case remains unknown; in the other it was due to pelvic adhesions.

Professor Reichal,[7] in an article on ileus after vaginal hysterectomy reports three cases of intestinal obstruction.

Other cases have been reported by Drs. Bokelmaan,[8] Leopold,[9] and Lundau,[10] death resulting in each case. Later cases have been reported by Dr. Coe.[11] This accident of intestinal adhesion to the raw surfaces seems to be more frequent when forceps are used to control hæmorrhage than when the ligature is used.

URETERS.

A second source of danger in this operation is met with chiefly in those cases in which the disease has extended somewhat laterally, from the risk of either dividing the ureter, or including them in the ligature or forceps applied to the broad ligament to arrest hæmorrhage. Any surgeon who has performed vaginal hysterectomy frequently is well aware of this danger, and there are few who could not recall cases in which this accident has happened to them; there are several such cases recorded.

Vesico-vaginal or recto-vaginal fistula are by no means so rare as might be supposed after total extirpation of the uterus; there are several cases on record, and these could be, I think, considerably increased if all such accidents were reported. Vesico-vaginal fistulæ are especially liable to occur in those cases in which the disease is somewhat extensive and the pelvis contracted, necessitating a good deal of force to enucleate the uterus. This catastrophe does not sometimes declare itself for some days after the operation, but when the slough becomes detached the surgeon, to his horror, on visiting his patient finds urine

[7] "Zeitschrift für Geb. u. Gyn." Band xv., Heft 1.
[8] "Archives für Gyn." Band xxv., Heft 1.
[9] *Ibid.* Band xxx., Heft 3.
[10] *Berlin Klin Wochenschrift*, 1888, No. 10.
[11] *Am. Journal of Obstet.*, vol. xxxiii., p. 469.

trickling out of the vagina. Often the opening is so high up that it is difficult to locate the exact seat of the urinary fistula, and I need hardly point out that in these cases the hopes of closing the fistula must be very small.

Another source of danger is peritonitis, especially in those cases where the parts are of necessity much dragged and torn.

Sepsis again is answerable for many of the deaths. And lastly hæmorrhage often is severe and alarming.

RESULTS.

In referring to the statistics of the result of total extirpation of the uterus, Dr. Paul F. Munde and Burke, in a most instructive paper reported in the *Annual of Universal Medical Science*, vol. II, 1891, have reported 492 cases in which the operation was performed by several different operators, the immediate mortality averaging 10·5 on all cases.

The comparison of the operation when performed by different methods is very instructive, thus the mortality when ligature alone was adopted is as low as 6·6 per cent., when the ligature and clamp were used it rose to 11·5 per cent., and when the clamp alone was the method employed for controlling the blood vessels the deaths still further increased to 16·6 per cent. This large difference in the death-rate seems to be accounted for by the cases in which the ligature alone was used being those in which the disease was limited, and the uterus readily drawn down out of the vulva. In such cases the high operation would probably have been efficacious. So that it would appear that the higher rates of mortality might have been accounted for more by the extent of the disease than by the method adopted of securing the vessels.

In a recent discussion[12] upon the relative merits of vaginal hysterectomy and supra-vaginal amputation for cancer of the uterus, which took place at the Obstetrical Society, opinions seemed to differ materially, but the weight of the argument appeared rather to tend in favour of the lesser operation. Dr. William Duncan, alluding to the mortality after total extirpation, referred to the series of cases reported by Professor Japp Sinclair, and observed

[12] *Lancet*, 1893, vol. I, p. 7.

that his mortality was certainly as small as that of supra-vaginal amputation.

Drs. Terrier and Hartman[13] give details of a series of thirty-four vaginal hysterectomies with eight deaths. One from hæmorrhage on the seventh day, two died from shock and hemorrhage in forty-eight hours, two died from shock on the third day, two succumbed to peritonitis. In one case a pair of forceps had pinched a loop of intestine, causing perforation, and in one case the uterus was very adherent, and in the last case death resulted from phlebitis fourteen days after operation. In considering the ultimate results these physicians report two cases as well without any recurrence after six years, four months; one after four and a half years; in the others relapse occurred, in eight cases, at periods between one month and two years; one in two and a half years; and three are free from disease at time of report, at periods from eight months to three years after operation. Three cases were incomplete, in one necessitating the opening of the cul-de-sac and bladder, and two have suspicious nodules at the side of the vagina.

The conclusions arrived at are that relapse is frequent, about 70 per cent., and often rapid, but may not manifest itself by signs noticeable to the patient until a considerable time; 30 per cent. of those who survive seem to be completely cured.

Post (the *American Journal of Obstetrics*, November, 1887), in 700 cases of vaginal hysterectomy he has collected, asserts that the mortality after the operation is 24 per cent. Dr. Florian Krug,[14] New York, gives us his personal experience with vaginal hysterectomy. He is strongly in favour of total extirpation in suitable cases, and reports fifteen on whom he had performed the operation during three years. Two of these were done for non-malignant disease of the uterus, and one for a doubtful case of malignancy, thus reducing the number to twelve cases. One of these died from the operation, and one had recurrence in five months after the operation. All the others are reported as having had no recurrence and being in perfect health. Nine of these cases had, however, only

[13] *Revu de Chirurgie*, April, 1892.
[14] *American Journal of Obstetrics*, vol. xxiv, p. 796.

been operated on from three to sixteen months before the reading of the paper: too short a time to give any reliable information as to the recurrence.

From the few cases in which Dr. Krug has operated it is evident, as he points out, that he only operates on those cases in which he is quite sure he can remove the whole of the diseased tissue; he says wherever the removal of all diseased tissue is impossible, vaginal hysterectomy is not indicated; and if recurrence takes place soon after it has been performed, it only goes to show that cancerous foci have been left behind. He then goes on to describe his method of operating which is based upon the importance of absolute asepsis and cleanliness. To obtain this he invariably subjects his patients to examination under narcosis and at the same time thoroughly curettes the uterine cavity in corporeal cancer, or removes the soft sloughy tissue with the sharp spoon or scissors in cases of cervical epithelioma. The cautery is then freely applied, and for about a week or so vaginal douches are given, sometimes tannin and iodoform powder is applied, until a clean surface is obtained. Directly before the secondary operation he thoroughly scrubs the vagina with mollin containing 10 per cent. of creolin by means of a brush. He then proceeds to remove the uterus. He further lays great stress on the treatment of the stump and prefers the ligature to the clamp. The stump is to be inverted towards the vagina and the peritoneal wound carefully packed with iodoform gauze which may be safely left *in situ* for eight days.

I have now performed vaginal hysterectomy upon twenty-seven cases of uterine cancer, only two of which have succumbed to the operation, thus giving a mortality of less than 8 per cent.; one of these cases died from peritonitis, the other from intestinal obstruction caused by a piece of omentum becoming adherent to the roof of the vagina and constricting a loop of intestine. I opened this patient's abdomen on the sixth day and detached the omentum and released the constriction, the patient, however, died.

Recurrence in the site of disease within six months has taken place in three cases.

The ureters were divided in three cases, and in one old maiden lady in which I had to divide the perineum, recto-vaginal fistulæ resulted.

I have now placed as clearly as the time at my disposal will permit the result of these two operations. By comparing these results I hope to come to some conclusion as to which is the operation to be recommended in future. In doing this I propose to compare (1) the dangers coincident to the two operations; (2) the immediate mortality after the operation; (3) the periods of freedom from recurrence, and (4) general results.

1. Amongst the dangers, as I have pointed out, in vaginal hysterectomy, quite a number of patients have succumbed to intestinal obstruction due to some portion of the intestine becoming adherent to the edges of the vaginal wound. Dr. Krug nearly lost one patient by this cause and it was only by his timely intervention in examining the vaginal wound that he found a knuckle of intestine protruding through the wound. He broke down the adhesions with his finger, pushed the intestine back and introduced a plug of iodoform gauze and saved his patient. Should symptoms of intestinal obstruction appear, then, after this operation, no time should be lost in endeavouring to remove the cause.

This danger can never be feared after supra-vaginal amputation as the only portion of the peritoneum which is at all likely to be opened is Douglas's pouch, the peritoneal edges of which become glued together and the opening is securely closed within a few hours. The danger of ligaturing or dividing the ureters is a very serious one in the operation of total extirpation, as, should the disease extend laterally or the tissues be thickened by inflammatory mischief, it is impossible to recognise the different structures which present themselves, and it is obvious that in passing a needle through these tissues or in applying pressure forceps the ureter may very easily be included. This can readily be understood when the intimate relations of the uretér and uterine artery are remembered. This is a strong argument against performing vaginal hysterectomy when the disease is found to extend laterally, or presumably encroaches on the broad ligaments. In cases of supra-vaginal amputation this danger can never present itself. Vesico-vaginal fistulæ are by no means uncommon after vaginal hysterectomy, especially when the disease implicates the anterior portion of the neck of the uterus; in such cases inflammatory thickening takes place in the cellular tissue between the bladder and uterus,

and it can be readily understood how in such cases the bladder may be torn. In cases suitable for the high operation this danger can rarely if ever exist. Peritonitis should rarely be anticipated after either operation if the vagina has been rendered thoroughly aseptic, either after the one operation or the other. This misfortune seems to be much more likely to follow vaginal hysterectomy when the broad ligaments are clamped than when the ligature is used. Hæmorrhage both primary and secondary is liable to cause trouble after both operations, perhaps even more so after the high operation, as by the traction which is exercised during the removal of the diseased tissues the vessels become temporarily closed and at the time no bleeding points present themselves. When, however, the remaining portion of the uterus is returned and the pressure relieved, bleeding may take place. This accident no doubt would be less likely to follow if the cervix were removed by the galvano-cautery.

2. The immediate mortality after operation can only be obtained from the statistics which have been published. Dr. Byrne, who has been at much trouble to do this, has collected 1,273 cases of vaginal hysterectomy, which have been reported, and has divided them into different classes according to locality, thus:

Locality.	Operators.	Operations.	Deaths.	Per Cent.
Continental ...	14	944	137	14.5
British ...	8	74	15	20.0
United States ...	16	255	34	13.0
Total	38	1273	186	14.6

We may then safely place the immediate mortality after total extirpation as hitherto practised at about 10 per cent. Now if we compare these figures with the results after supra-vaginal amputation, we shall find that the result is very much in favour of the latter operation. Dr. Byrne tells us that in 400 cases in which he had performed the high operation by galvano-cautery he had no deaths, and Dr. Lewers, in 19 cases by the same method, likewise records no death. Dr. Baker, in a series of 28 high operations, had also no death. In 24 cases which I have reported I had only one death. The immediate risk, then, from this operation appears to be practically *nil.*

3. The length of time that the patient remains free from recurrence would appear to depend entirely upon degree. This is well exemplified, as by Drs. Terrier, Hartman, and Reed. According to the observations of these physicians, cases in which the disease has been recognised quite early, are practically cured by either operation; but, seeing the dangers which beset the major operation, and which are absent in the minor, surely it would be wiser to practise the latter.

4. It only remains for me to make a few remarks as to the choice of cases, and in doing this I shall perhaps not be far wrong in recommending surgeons to operate only upon those cases which are seen early, and in which the disease is limited to the vaginal portion of the uterus or to the cervix and cervical canal, the uterus being freely movable, and the disease not extending laterally along the broad ligaments or the cellular tissue between the peritoneum and the fornix. In such cases, no doubt, the results would be almost as good by adopting the one operation as the other, so far as the immediate mortality and chances of recurrence of the disease are concerned; but, taking into consideration the dangers and complication which may follow the major operation of removing the whole organ and destroying the roof of the vagina, I cannot but think that supra-vaginal amputation of the disease will not only maintain its high position, but that many of those surgeons who are at present opposed to it will gradually become converted, and will adopt the total extirpation of the entire organ only in those cases in which the disease is situated in or has extended to the body of the uterus.

Gentlemen, I trust I have not wearied you, but in examining into this subject I have endeavoured to the best of my ability to place before you fairly and dispassionately the results obtained by surgeons of all shades of opinion, trusting that we may profit by their experience, and in the future be able to bring the results of such experience to so bear upon our practice that the result of the operative treatment of cancer of the uterus may occupy a position in the annals of surgery and gynæcology that may prove a triumph of our art, and a lasting benefit to thousands of poor suffering women who may seek our aid.

APPENDIX OF CASES.

In illustration of these lectures, it will not be out of place to record short histories of cases on which I have operated for uterine carcinoma.

First, those cases in which the disease has not progressed so far as to preclude the hope of getting beyond it by supra-vaginal amputation of the os and cervix.

Secondly, those cases in which the disease has extended up the cervical canal so far as to render the minor operations doubtful, or in which the fundus of the uterus is implicated, and in which total extirpation of the entire organ alone gives any reasonable hope of eradicating the disease.

Thirdly, those cases in which the disease is so extensive as to preclude the possibility of removing it by any surgical interference, but in which much benefit may be hoped for by the judicious application of caustics.

THIRTY-NINE CASES OF SUPRA-VAGINAL AMPUTATION OF THE CERVIX UTERI FOR CARCINOMA.

First, then, I will narrate short histories of thirty-nine cases of supra-vaginal amputation of the os and cervix, with a mortality of 5 per cent.

Twenty-five of these cases were embodied in a paper read by me before the British Gynæcological Society, December 8, 1892.*

The cases I have selected are those in which I have operated during the years 1889 to 1894. With the exception of a few cases, the specimens have been microscopically examined and pronounced to be carcinoma; those cases which were of a doubtful character certainly presented macroscopically all the appearance of malignancy.

* *British Gynæcological Journal*, vol. viii., p. 353.

In the year 1889 *I operated upon four cases.*

Case 1.—Mrs. B——, ætat sixty; large family. Duration of the disease several months. The os was deeply ulcerated and hardened, the cervix thickened and somewhat nodular. Uterus freely movable. Vagina free from disease. On May 1, 1889, I performed supra-vaginal amputation of the cervix, at the same time cutting out a large conical piece above the internal os, the apex of the cone extending nearly to the fundus. The patient made an excellent recovery, and had a good sound stump. She kept free from the disease until September, 1891, when recurrence took place, and the patient declined further operative interference.

Case 2.—Mrs. ——, ætat sixty-one; married, several children. The external os is ulcerated, the ulceration extending into the cervical canal. Bleeds freely; much induration. On July 16, 1889, I performed supra-vaginal amputation of the cervix. The patient made an excellent recovery, and remained free from disease until her death, which took place some two years afterwards from bronchitis. By the courtesy of Dr. McCaskie I was enabled to obtain the uterus, and there was no trace of recurrence.

Case 3.—Mrs. W——, ætat forty-two; married, four children; duration of the disease some six months. Os presents a ragged, ulcerated surface; the cervix is hard and thickened. Uterus movable, vagina free. On September 22, 1889, I performed supra-vaginal amputation of the os and cervix, curetting the endometrium, which was left. Patient made an excellent recovery, and is now free from any recurrence.

Case 4.—Mrs. H——, ætat forty-one; married, two children; duration of disease twelve months. Posterior lip is thickened and rough, deep ulceration extending into cervix; uterus movable, vagina free. Supra-vaginal amputation performed December 2, 1889. There was some free hæmorrhage, which was arrested by plugging. Wound healed well, and the patient has had no recurrence until now. Suffered for some year or eighteen months with much pain and distress at the ordinary menstrual periods.

During 1890 *I operated on eleven cases.*

Case 5. — Mrs. W——, ætat fifty-four; married, two children; duration of disease said to be only five months. Os and cervix indurated and somewhat ulcerated; uterus enlarged, and only slightly movable. Supra-vaginal amputation performed February 2, 1890. The stump healed slowly, and the patient made a tedious convalescence. There was recurrence of the disease in three months.

Case 6.—Mrs. H——, ætat twenty-nine; four children. Has had an offensive discharge for six months. The cervix is hard and thickened and fissured; the os ulcerated, reddened and slightly irregular. Vagina free. Supra-vaginal amputation performed March 1, 1890. Patient made a good recovery, and is free from any recurrence. This was a doubtful case of carcinoma, although it had all the general appearance of cancer.

Case 7. — Mrs. C——, ætat fifty-four; widow, two children. Sister died of cancer of the uterus. She had noticed a discharge for eight months. Cervix enlarged and indurated. Vaginal surface not ulcerated. Offensive discharge. Uterus movable. Has had a good deal of hæmorrhage. March 25, 1890, supra-vaginal amputation performed; rather severe hæmorrhage. Patient made a good recovery, but had recurrence of the disease in a few months.

Case 8.—Mrs. S——, ætat forty-five; three children; duration ten months. Aunt died of cancer. Cervix enlarged, indurated, and ulcerated. Several isolated nodules on cervix. Uterus movable. April 20, 1890, supra-vaginal amputation. Patient made an excellent recovery, and has had no recurrence.

Case 9. — Mrs. B——, ætat thirty-five; married; duration eight months. Cauliflower growth from cervix. Uterus movable; vagina free. Supra-vaginal amputation, April 14, 1890. Patient progressed favourably for the first three days after the operation, when she had a rigour, and temperature rose to 103·8°, accompanied with vomiting. Some pus was let out, and a drainage-tube inserted. She had several more rigors, accompanied with high temperature, and died. Post-mortem revealed extensive pelvic cellulitis.

Case 10. — Mrs. H——, ætat forty-two; married, six children; duration of disease ten months. An irregular ulcerated growth is seen springing from the cervix, more especially from the posterior lip. Uterus mobile; vagina free. Supra-vaginal amputation on May 20, 1890. In this case the disease extended higher than was anticipated. The endometrium was curetted, and the cavity of the uterus packed with strips of gauze soaked in a saturated solution of chromic acid. There was some sharp hæmorrhage on the slough—the result of the chromic acid—separating. The patient, however, made a very good recovery, but the disease recurred in a few months.

Case 11.—Mrs. R——, ætat sixty; two children; duration of disease four months. Father died of cancer. Large cauliflower growth springing from cervix; bleeds freely when touched; uterus freely movable. Supra-vaginal amputation, August 9, 1890. Free hæmorrhage; vagina plugged with gauze. Patient made a good recovery. Lost sight of. When last seen, some months after operation, there was no recurrence.

Case 12.—Mrs. G——, ætat thirty-nine; married, four children; duration of disease twelve months. Cervix ulcerated and ragged; uterus somewhat fixed; offensive, blood-stained discharge. On July 26 supra-vaginal amputation performed. There was great difficulty in getting beyond the disease, and although the patient made a fairly good recovery, the disease recurred directly.

Case 13. — Mrs. P——, ætat forty-three; married, eleven children; duration of disease nine months. Irregular growth of considerable size springing from cervix. Left side of os more especially affected. Free hæmorrhage at times. Supra-vaginal amputation, August 12, 1890. Patient made a good recovery, and there was no recurrence when last seen.

Case 14. — Mrs. O'C——, ætat fifty-four; one child; duration of disease six months. Extensive ulceration of os; cervix hard and indurated. Uterus movable; vagina free. Supra-vaginal amputation, November 7, 1890. Sharp hæmorrhage; forceps left on. Patient made a good recovery. No signs of recurrence at present time.

Case 15. — Mrs. R——, ætat fifty-seven; married, one child; duration of disease twelve months. Well-defined

roughened irregular growth from cervix, accompanied with profuse, very offensive discharge. Uterus freely movable. Vagina free from disease. Supra-vaginal amputation performed December 5, 1890. Patient made a good recovery, and has had no recurrence.

In the year 1891 *I performed ten operations.*

Case 16.—Mrs. H——, ætat fifty-one; widow; duration of disease twelve months. A hard, irregular mass springing from the os. Uterus freely movable; vagina free. Supra-vaginal amputation, January 30, 1891. Made good convalescence. No recurrence hitherto.

Case 17. — Mrs. N——, ætat forty-five; duration of disease eight months. An ulcerating mass protruding from cervix; uterus freely movable; vagina not implicated. Supra-vaginal operation February 16, 1891. Patient made a good recovery, and has had no recurrence hitherto.

Case 18.—Mrs. H——, ætat forty-seven; three children; duration of disease six months. Cervix infiltrated with growth; vagina free; uterus freely movable. Supra-vaginal amputation March 26, 1892. Stump cicatrized well. No recurrence hitherto.

Case 19. — Mrs. S——, ætat forty-five; married; duration of disease six months. Large cauliflower growth extending halfway down the vagina; uterus mobile; slight infiltration of vaginal walls posteriorly. May 17, 1891, the disease was cut away with scissors, and a deep cone-shaped piece excised from the uterus with scissors. Patient, who was in a weak condition, gradually became weaker, and died on June 3, 1891. Unfit case for this operation.

Case 20.—Mrs. S——, ætat forty-four; married, three children; duration of disease seven months. Os uteri deeply ulcerated, and cervix considerably thickened and hard. Supra-vaginal operation, May 29, 1891. Made good recovery. No recurrence hitherto.

Case 21. — Mrs. B——, ætat forty-five; married, no children; duration of disease twelve months. Large ulcerated mass protruding from cervix, implicating vaginal walls. Disease removed with scissors, July 12, 1891, and a deep conical-shaped piece cut out of the uterus. Patient made a good recovery, but the disease recurred three months later.

Case 22.—Mrs. M——, ætat forty-five; married, seven children; two miscarriages; duration of disease ten months. Large, hard ulcerated mass implicating both lips of os. Uterus freely movable; vaginal walls free. Supra-vaginal amputation, August 4, 1891. Patient made a good recovery, and has had no signs of recurrence.

Case 23. — Mrs. P——, ætat fifty-one; married, five children; duration of disease five months. Deeply ulcerated condition of os; cervix infiltrated and hard; uterus movable; vagina free. Supra-vaginal operation, December 5, 1891. Patient made a good recovery, and is free from recurrence at present.

Case 24.—Mrs. W——, ætat forty; eight children and two miscarriages; duration of disease said to be two years. Small eroded surface on posterior lip of os, with great thickening and induration of the cervix. This patient was treated for some time without any improvement. Supra-vaginal amputation, December 18, 1891. The disease was found to extend up the cervical canal, and a large conical piece of the uterus was removed, extending well above the internal os. Patient made an excellent recovery, and is quite free from recurrence at present.

Case 25.—Mrs. S——, ætat fifty-one; married, six children; duration of disease three months. A deeply ulcerated patch on posterior lip of os, the edges of which were irregular and everted; bleeds readily on examination. Supra-vaginal operation, December 19, 1891. Patient made a good recovery, and at present is free from recurrence.

In the year 1892 *I operated on six cases.*

Case 26.—E. H——, ætat fifty-one; widow. Admitted January 26, 1892. Has been suffering from an offensive discharge for some months. Os deeply ulcerated, bleeds readily on examination. Vagina free; uterus movable; cervix hard. Supra-vaginal amputation, and large cone-shaped piece removed, on January 30. Patient discharged February 23. Wound quite healed; no recurrence.

Case 27.—L. R——, ætat forty-five; married, three children. Os and cervix implicated, hard, and very painful. Sanious offensive discharge from os. Vagina free. Supra-vaginal amputation with cone-shaped piece on February 16,

1892. Discharged April 9. Wound healed; no discharge.

Case 28.—E. H——, ætat forty-seven; married, thirteen children. Whole os implicated, and bleeds readily. Vagina free. Supra-vaginal amputation March 26, 1892. Discharged April 23; wound healed.

Case 29.—M. B——, ætat forty-four; married, five children; admitted March 23, 1892, with pronounced cancer of os. Supra-vaginal amputation performed March 26. Discharged, wound healed, on June 11, 1892.

Case 30.—E. M——, ætat forty-five; married, seven children; admitted July 1, 1892. Has noticed a discharge for some months; of late it has been blood-stained at times. On examination a cauliflower excrescence is found to be growing from the os. The vaginal walls are not implicated. Supra-vaginal amputation on July 12, 1892. Discharged August 4.

Case 31.—A. R——, ætat thirty-seven; married, nine children; admitted November 14, 1892, with carcinoma of cervix. Has a good deal of discharge and pain. Os hard and ulcerated. Supra-vaginal amputation November 19, 1892. Discharged January 13, 1892; no recurrence.

In the year 1893 *I performed two operations.*

Case 32.—A. W——, ætat forty-eight; married, eight children; admitted May 22, 1893, with carcinoma of cervix. Has had offensive discharge for some months. Extensive ulceration of os, extending up cervical canal. Vagina walls free; uterus freely movable. Supra-vaginal amputation May 24, 1893. Douglas's pouch was opened July 15. Patient discharged well; no discharge or pain.

Case 33.—E. A——, ætat thirty-two; married, five children, youngest five years old; admitted July 31, 1893, with large cauliflower excrescence springing from os and very offensive discharge; bleeds readily; vagina free. August 1 supra-vaginal amputation was performed. Douglas's pouch was opened, a glass drainage-tube inserted, and vagina packed with iodoform gauze. September 21, patient discharged, wound healed, no sign of disease; recurrence some months later.

Case 34.—A. H——, ætat thirty-five; single; admitted January 29, 1894. Carcinoma of os and cervix. Vagina

free; uterus movable. Discharge sanious. January 31, 1894, supra-vaginal amputation. Discharged March 1, quite healed; no recurrence.

Case 35.—E. B——, ætat forty-two; married, five children; admitted February 13, 1894. Os deeply ulcerated; cervix hard and indurated; bleeds readily. Vagina not implicated; uterus freely movable. February 13 supra-vaginal amputation of os and cervix. Patient made uninterrupted recovery, and was discharged on March 7, quite healed, and no pain or discharge.

Case 36.—M. B——, ætat thirty-seven; married, three children; admitted February 13, 1894. Extensive ulceration of os and cervix; considerable pain and discharge, occasionally blood-stained. March 7, supra-vaginal amputation performed. Patient discharged April 7, wound quite healed.

Case 37.—H. O——, ætat forty; widow, four children; admitted April 14, 1894. Cauliflower growth springing from os. Discharge very offensive. Vagina quite free; uterus movable. On April 18 supra-vaginal amputation of os and cervix. Patient made an excellent recovery, and was discharged May 10, wound quite healed.

Case 38.—A. G——, ætat thirty-six; widow, three children, one miscarriage; admitted on May 11, 1894. Carcinoma of os and cervix. Suffers considerable pain. May 15 supra-vaginal amputation of os and cervix performed. Patient convalesced somewhat slowly, and was discharged on June 22, well.

Case 39.—E. P——, ætat forty; married, six children; admitted May 16, 1894. Os deeply ulcerated, disease extending up the cervical canal. Bleeds readily on examination. Discharge very copious and offensive. May 22 supra-vaginal amputation. Discharged well on June 30.

Such are the brief histories of these cases, of which twenty-eight recovered, and have had no signs of recurrence at the present. The time which has elapsed since the operation in these cases varies from one to three years. One case recovered from the operation, and remained free from recurrence for over two years, when the disease reappeared. In five cases, recurrence took place within a year of the operation. Two cases were lost sight of, but were free from recurrence when last seen, some time after the operation.

Two cases died, one from pelvic cellulitis and another from exhaustion. This latter case should hardly have been included in the series, as the disease was far too extensive to allow of anything but a palliative operation.

From these cases, I think, a valuable lesson may be learned, and I purpose to make a few remarks respecting cases 5, 7, 9, 10, 12, 19, and 21. In all these cases recurrence took place within a few months after the operation, or the patients died. It may be taken, therefore, that they were not benefited in any way by the operation; and it may be assumed that they were cases unsuitable for this form of operation.

In Case 5 we find the disease is said only to have existed for five months, and digital examination merely discovered some induration of the os and cervix, and a slightly enlarged uterus, not very mobile. The speculum revealed some superficial ulceration. Here is a case in which, if the true significance of the enlarged and slightly-fixed uterus had been fully appreciated, such an operation as partial removal of the viscus would not have been attempted, as it is obvious from the very speedy recurrence of the disease that, although the cervix was thought only to be implicated, yet, in all probability, the disease commenced in the endometrium. In such a case the only operation that was at all likely to be of permanent service would have been total extirpation of the uterus, and even in such an operation some difficulty would have been encountered owing to the fixation.

Case 7 had noticed an offensive discharge for eight months. Here there was no ulceration of the os, but the cervix was enlarged and indurated. The uterus was freely movable. In this case there can be no doubt but that the disease commenced in the cervical canal, and, instead of extending downwards towards the os, as usually is the case, it passed upwards to the mucous membrane lining the body of the uterus. In removing the conical piece, while apparently the incision was carried well beyond the disease, there must have been some foci of malignant growth, extending either deeply into the muscular tissues or into the mucous surface, which was not removed. In this case, I think, vaginal hysterectomy would have been the better operation, or the cavity of the uterus should have been thoroughly curetted and packed with chloride of zinc wool.

Case 9 had a large cauliflower growth springing from the

os. The uterus was freely movable, and this, in my opinion, was a suitable case for supra-vaginal amputation. Probably, however, from the long contact with this foul growth, the mucous membrane of the vagina became impregnated with the septic discharge, and, notwithstanding the most scrupulous care, and use of antiseptic applications, the wound caused by the operation became infected, and pelvic cellulitis followed. In such cases, perhaps it would have been wiser to have introduced a glass drainage-tube, and packed the vagina with some antiseptic gauze.

Case 10 had all the appearance of being a favourable case for the high operation; here, however, as in Case 7, the disease had evidently extended more deeply than was anticipated. No doubt, total extirpation would have been a preferable operation in this case.

Case 12.—Here again the uterus was somewhat fixed, and undoubtedly these cases are unsuitable for operation.

In Case 19 the vagina was involved to a slight extent, and a large cauliflower growth occupied the vagina. The patient was very reduced by septic absorption and loss of blood during the operation, which was undertaken purely as a palliative measure to relieve the poor woman of a putrid, badly-smelling mass. This case can hardly be included as one in which the high operation only had been performed.

Case 21, owing to the extent of the disease, would have been better treated by complete extirpation; permission, however, for doing this had not been obtained, so that the course which, in my opinion, would give her the next best chance of getting rid of the disease was adopted.

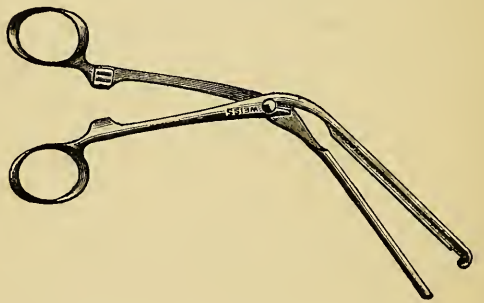
Remarks.—In the first place, I think it will be well to define my meaning of the term supra-vaginal amputation. It is not the mere amputation of the cervix, but the removal of the cervix with a large cone-shaped piece above from the body of the uterus.

I am quite in accord with Dr. John Williams, Schroeder, and Hoffmeier, whose statistics go conclusively, I think, to show that where carcinoma of the uterus is seen early, and the disease is limited to the vaginal portion of the organ, supra-vaginal amputation is all that is necessary, and it is useless to put patients to the extra risk of total extirpation of the uterus. Gusserow gives the mortality after supra-

vaginal amputation when performed by the knife at 9·09 per cent., and when by the galvanic cautery at 7·75 per cent., while Post, in the *American Journal of Obstetrics*, November, 1887, in 700 cases of vaginal hysterectomy he had collected, asserts that the mortality after this operation is 24 per cent. Since these statistics were collected, no doubt, the methods adopted for the removal of the uterus per vaginam are much improved, but even now Martin of Berlin gives his mortality at 16·6 per cent., while, however, Leopold and Scengen acknowledge to a mortality of only 6·2 and 8·3 per cent. respectively. There can be no doubt, I think, that the deaths after supra-vaginal amputation are considerably less than after vaginal hysterectomy, and, in suitable cases, I think I have shown that the results obtained are such as to warrant us in advising the former operation in preference to total extirpation in suitable cases.

TWENTY-EIGHT CASES OF VAGINAL HYSTERECTOMY FOR CARCINOMA, AND TWO FOR MYOMA OF THE UTERUS, WITH TWO DEATHS.

A paper in which these cases were recorded was read by me at the British Medical Association meeting at Bristol, August, 1894. Before recording these cases, I will give a short description of the clamp referred to on page 37. It occasionally happens in performing vaginal hysterectomy that one meets with a case in which the broad ligaments are very short and somewhat thickened, in consequence of which the tilting of the uterus, by either retro- or ante-version, is rendered very difficult. In such cases the application of the ligature is most difficult. It is in such instances that compression forceps may be of considerable value. Messrs.



Weiss and Son have made for me some forceps, which I think are well suited to these cases; they are light, and at the same time strong. By reference to the engraving, it will be seen that they are composed of two distinct portions, one furnished with a pin at the point of union, and the other being deeply notched out so as to work around the pin. The blades are so arranged that one has a centre-bar, which is slightly deeper at the distal end than at the proximal, and extending the whole length of the blade there is a corresponding depression in the opposing blade into which this bar fits. By this arrangement, when the forceps are securely closed, the thinner tissues at the upper

part of the broad ligament, as well as the thicker parts at the vaginal end, are firmly gripped, and I believe it would be impossible for either the uterine or ovarian artery to slip.

The blades being made separately enables the operator to introduce one blade at a time if he wishes, and this separation of the blades is also of service in enabling the forceps to be kept absolutely aseptic.

I am indebted to Mr. West, my house-surgeon, for the notes of all the cases which occurred in the Cancer Hospital.

Case 1.—A. C——, ætat thirty-seven; married, no children; consulted me on March 18, 1892, complaining of offensive discharge, sometimes blood-stained; first noticed discharge a year ago; has lost much flesh.

Present Condition.—A growth of considerable size, hard, ulcerated in places, occupies the os; bleeds readily, and causes much pain; uterus somewhat enlarged. Vaginal hysterectomy performed by me March 25; patient made excellent recovery, and is at present free from recurrence. Microscopic examination—carcinoma.

Case 2.—M. E——, ætat fifty-three; married, six children; admitted under my care into Cancer Hospital July 4, 1892, complaining of pain in back and left iliac region. Patient has had a badly-smelling discharge for ten months, with slight hæmorrhage; menopause six years ago.

Present State.—There is a cauliflower growth springing from the os, which has ulcerated, and bleeds readily on examination. Vaginal wall quite free; uterus freely movable.

July 10.—Vaginal hysterectomy performed. Patient made an excellent recovery, and is at the present time free from recurrence. Microscopic examination—carcinoma.

Case 3.—W. C. S——, ætat forty-six; married, five children; consulted me July, 1892, suffering from slight discharge, which had lasted about six months; about three months ago had hæmorrhage, which has recurred from time to time since.

Present State.—Os ulcerated and widely dilated, readily admitting finger; bleeds readily, and, indeed, somewhat profusely. A smooth, soft substance is felt in uterus; uterus movable, but the left broad ligament appears somewhat thickened.

July 7.—Vaginal hysterectomy performed; microscopic

examination—medullary carcinoma. Patient free from disease present time.

Case 4.—E. B——, ætat thirty-eight; admitted into the Cancer Hospital December 22, 1892, suffering from carcinoma of the uterus; sent to me by Mr. Scharlieb, M.D. Patient is married, has had four children, and one miscarriage; no family history of cancer. Patient had inflammation of the uterus six years ago; has never felt strong since; had a thin watery discharge till six months ago, when she had a severe flooding, and since this the discharge has been blood-stained and very offensive; suffers great pain; says she has not lost flesh.

January 3, 1893.—Vaginal hysterectomy performed; discharged convalescent February 25, 1893.

July, 1894.—She presented herself for examination, when slight recurrence was discovered.

Case 5.—L. P——, ætat fifty-seven; married, two children; consulted me in October, 1892, complaining of hæmorrhage and bearing-down pains; menopause ten years ago.

Present State.—There is slight discharge coming from the uterus, not offensive; uterus retroflexed, but not, apparently, enlarged; sound is passed with some little difficulty, and causes hæmorrhage. Microscopic examination—adenocarcinoma.

October 27.—Vaginal hysterectomy performed; made good recovery; no recurrence at present.

Case 6.—A. K——, ætat thirty-six; married, no children or miscarriages; admitted into the Cancer Hospital May 15, 1893; under my care; suffering from carcinoma of the cervix. Patient sent by Dr. Heywood Smith.

History from Patient.—Patient has had pain in the lower part of abdomen and in the back for the last eight months; had discharge for the same period, which has latterly become more watery and offensive. Patient had a severe flooding April 10, 1893, other floodings less severe since.

Family History.—Mother died of cancer of the throat, age forty-two; no other history of malignant disease or of tumour.

Present Condition.—Healthy-looking woman, and fairly well nourished. In the situation of external os is an ulcer admitting the forefinger for about an inch; the walls of

cavity are formed by hard tissue, which extends more to the left side; vaginal walls are free; the uterus bimanually appears freely movable, though the left broad ligament appears slightly involved; examination causes some bleeding.

May 16, 1893.—Vaginal hysterectomy was performed; disease was more extensive on the left side; the whole of the uterus was removed; about half an inch of the left ureter was removed with the growth. Patient lost little blood; all the forceps were removed. Vagina was packed with iodoform gauze. The ovaries and tubes were not removed. Operation lasted about an hour and a quarter.

Patient made a good recovery, although urine still escaped by the vagina. She was furnished with a pessary with an indiarubber funnel, which was conducted into a urinal fastened round leg, and discharged May 31, 1893. The disease recurred in a few months.

Case 7.—C. J. E——, ætat forty-two; has been a widow for the last six years, no children; admitted into the Cancer Hospital June 24, 1893; under my care; suffering from uterine carcinoma. Sent by Dr. Pedler.

History from Patient.—Patient has been always regular every month, until two and a half years ago, when she lost a good deal of blood and clots per vaginam, and had much pain; has lost much strength and flesh. Dr. Heywood Smith, three weeks ago, dilated the os and curetted the uterine cavity; the scrapings were examined microscopically by Dr. Bousfield, who pronounced the growth to be an encephaloid carcinoma.

Present Condition.—Patient is an anæmic, poorly-nourished woman; the cervix uteri is normal, but the body of the uterus is enlarged to about the size of a large orange, appears hardish and globular, freely movable; the left broad ligament feels thicker than normal.

July 1, 1893.—Under ether vaginal hysterectomy was performed. The vagina was very small, and the uterus being enlarged, it was difficult to remove. It not being possible to antevert or retrovert the organ, it was pulled straight down; the broad ligaments each side were tied with silk, the ovaries were not removed. The uterus after removal was much enlarged, about the size of a small cocoa-nut. On section the uterine walls were considerably thickened, a

whitish, somewhat hard growth was seen surrounding the uterine cavity, soft matter, looking like brain substance, occupying the place of the mucous lining of uterus.

I saw the patient in about eight months with Dr. Pedler, when her left leg was much swollen, and there was a tumour in the abdomen, evidently malignant, and she died nine months after the operation.

Case 8.—E. S——, ætat fifty-two ; married, three children ; consulted me, July, 1893, suffering from a badly smelling discharge. Menopause four years previously. She had had bleeding from time to time, especially when riding in cabs or omnibuses; has suffered a good deal of pain. Microscopic examination—round-celled sarcoma.

Present State.—A growth is seen projecting from the os, soft, and bleeding readily. Uterus quite movable, and not enlarged. Vaginal walls not implicated.

July 30.—Vaginal hysterectomy performed. Patient made an excellent recovery ; no recurrence.

Case 9.—H. D——, ætat fifty-eight; married, six children ; consulted me February, 1893, for a disagreeable badly-smelling discharge. On examination the os was found to be eroded and deeply fissured, the cervix hard ; and on passing the sound the endometrium was found to be roughened. The menopause had occurred ten years previously, and before seeing me she had had frequent admixture of blood with the discharge. On February 20 I performed vaginal hysterectomy. Patient made an excellent convalescence. On opening the uterus a growth was discovered, which on microscopic examination was pronounced to be adeno-carcinoma. No recurrence.

Case 10.—S. J——, ætat sixty-three ; single ; was seen by me in consultation with Dr. Gross in July, 1893. I had previously removed some growth from the uterus of this patient, which proved to be round-celled sarcoma. In consultation with Dr. (now Sir) John Williams and Dr. Gross, it was agreed that vaginal hysterectomy should be advised ; this the patient agreed to, and on July 6 I removed the uterus per vaginam. Owing to the smallness of the vagina I divided the perinæum. The patient made a good convalescence, but the disease recurred in the left broad ligament in about three months after the operation. She died within six months.

Case 11.—Mrs. H——, ætat thirty-five; married, two children; was sent to me by Dr. Cullingworth in July, 1893. Patient had had discharge for eighteen months, and bleeding from time to time. Suffered great pain at bottom of back.

Present Condition.—A large ulcerated surface occupies position of os, extending to vaginal roof; bleeds on examination; badly-smelling discharge; uterus movable, but the disease appears to have infiltrated the cellular tissue around cervix. Microscopic examination—sarcoma.

On July 17 I performed vaginal hysterectomy. Patient did very well for first two days, then symptoms of septic peritonitis set in, and patient died on the fifth day.

Case 12.—Mrs. S——, ætat fifty-five; married, three children; menopause about five years ago; sent me by Mrs. Garrett Anderson, who saw her in July, 1893. She had been suffering from discharge for some months, and had recently a good deal of hæmorrhage. Mrs. Garrett Anderson dilated the os and removed a small piece of growth with the curette, which microscopic examination proved to be malignant. I performed vaginal hysterectomy on July 7. The patient made an excellent recovery.

This patient came to see me in April, 1894, suffering from intestinal obstruction. She had a hard nodule situated, apparently, on the ascending colon. As the symptoms were urgent I advised immediate abdominal section. On opening the abdomen the nodule referred to was evidently malignant; there was a second growth also found at the junction of the descending colon and the sigmoid flexure. I fastened the cæcum to the abdominal wound, and opened it the next morning. The patient sank, however, from exhaustion. No recurrence of disease locally.

Case 13.—E. A——, ætat thirty-two; admitted into the Cancer Hospital on July 31, 1893; under my care; suffering from uterine carcinoma; sent me by Dr. Butler Smythe. Patient is married, and has had five children; no miscarriages; the last child five years ago. Patient has had vaginal discharge, at times stained with blood, for the last five or six months; has had severe pain in the back and lower part of abdomen for the last three months.

Present Condition. — Fairly healthy, though poorly-nourished woman. In the situation of external os is an

ulcerated cavity admitting the tip of forefinger. Uterus movable; the ulcerated surface extends more to the left; examination causes some bleeding.

August 1.—Vaginal hysterectomy was performed; glass drainage-tube inserted into wound of peritoneum; vagina packed with iodoform gauze.

September 21.—Patient discharged well, without pain or discharge; wounds in vaginal roof quite healed.

Case 14.—E. D——, ætat fifty-seven; admitted into the Cancer Hospital August 1, 1893; under my care; suffering from uterine carcinoma. Sent by Dr. Heywood Smith and Dr. Hunter.

History.—Patient is married, and has had four children and three miscarriages; the last pregnancy was fifteen years ago. Patient has had vaginal discharge for the last year; for the last six months patient has noticed blood occasionally in the discharge; for the last fortnight discharge has become more watery and offensive. Has lost much flesh, and has had much pain in the lower part of abdomen and back latterly.

Present Condition.—Healthy-looking and well-nourished woman. In the situation of external os is an ulcer admitting the tip of the forefinger; uterus freely movable; examination causes some bleeding; the walls of ulcer are formed by hard tissue.

August 5, 1893.—Vaginal hysterectomy was performed. Patient recovered without a bad symptom, and was discharged September 9, without any pain or discharge, wound quite healed. Patient has gained 8 lb. in weight during her stay in the hospital.

In November patient consulted me again, suffering from violent vomiting. On examination stomach was found much dilated, and a distinct tumour, the size of a small apple, could be felt at the situation of the pylorus. The vaginal roof was quite healthy, and no growth could be felt in the pelvis; the patient gradually sank. A post-mortem was declined, but presumably she died of carcinoma of the pylorus, or enlarged glands pressing on the pylorus. No recurrence of disease locally.

Case 15. — M. I——, ætat forty-one; married, two children; consulted me August 2, 1893, complaining of disagreeable discharge and occasional hæmorrhage, accom-

panied by constant bearing-down pains and irritation of the bladder.

Present State.—Os deeply ulcerated; cervix hard and resisting, bleeding freely on examination; discharge offensive; vagina free; uterus freely movable. Vaginal hysterectomy, August 12; patient made rapid recovery; no recurrence; microscopic examination—epithelioma.

Case 16. — C. L——, ætat forty-five; married, no children; consulted me September, 1893, suffering from hæmorrhage. Patient says she has had slight discharge for some little time. Of late between the periods has had sudden gushes of blood after any exertion; examination with sound causes bleeding; sound enters just over normal distances; microscopic examination — adeno - carcinoma. Vaginal hysterectomy performed September 26. Patient made a good recovery, and is now free from recurrence.

Case 17. — M. J——, ætat thirty-three; was admitted under my care into the Cancer Hospital in October, 1893, suffering from sarcoma of the uterus. Patient has been married eleven years; has had two children and two miscarriages; the last pregnancy was three years ago, which terminated in a miscarriage, the patient being then five months pregnant. Sent to me by Dr. Barbour.

Present Condition.—Patient is losing blood from uterus in considerable quantity; no tumour is palpable in abdomen; per vaginam the cervix is enlarged; no ulceration or erosion visible by the speculum; blood is seen coming from external os; bimanually the uterus feels enlarged to about the size of a small cocoanut, freely movable; the sound passes $3\frac{1}{2}$ inches.

October 10.—Patient was placed under the influence of ether, and the cervical canal was dilated with Hegar's dilators to No. 24; the finger was introduced into the uterine cavity; the mucous membrane felt roughened in places, and very hard. A small polypus about the size of a filbert nut was felt at the fundus uteri. The interior of uterus was then scraped with a curette, and the uterus was washed out. A microscopic examination of scraping proved the growth to be a round-cell sarcoma.

October 13.—As a result of the microscopical examination patient was strongly advised to have hysterectomy performed, to which she consented. On October 13, under ether, the uterus was removed through the vagina.

The uterus on removal appeared more globular in shape than normal, and about the size of a two months' pregnancy, the peritoneal coat appearing normal. On section the walls of the uterus were considerably thickened. Patient made an excellent recovery, and is still free from any recurrence.

Case 18. — A. S——, ætat forty-seven; married, three children; was sent to me by Dr. Barnes, suffering from discharge and hæmorrhage, December, 1893.

Present State.—Well-defined irregular growth from cervix, extending upwards in cervix; ulcerated, and bleeding readily on examination; some thickening in broad ligament; body of uterus rather larger than normal. Vaginal hysterectomy December 13, 1893. Patient made an excellent recovery, and has had no recurrence.

Case 19. — A. G——, ætat fifty-two; admitted on December 11, 1893, into the Cancer Hospital, suffering from cancer of the body of the uterus.

History.—Patient has been a widow for the last thirty years; had one child thirty years ago. For the past three years has had a blood-stained discharge, and has had several rather severe losses of blood during this period. Just before the discharge came on patient had been quite regular every month. In November, 1893, patient was under the care of Dr. Heywood Smith. She was then anæsthetized, the uterus explored, and some growth removed for microscopical examination, which subsequently proved to be cancerous.

Past History.—Patient had her breast amputated six years ago at St. George's Hospital by Mr. Pickering Pick; very extensive scar now present; no recurrence of disease.

Present Condition.—Fairly well-nourished woman. On vaginal examination by means of a Ferguson's speculum, the os is hard, with everted lips, blood-stained, and some very offensive discharge seen issuing from external os. On bimanual examination the uterus feels slightly enlarged, though freely movable; sound not passed.

December 12, 1893.—Vaginal hysterectomy performed. Patient made an excellent recovery, and on January 13 was discharged convalescent. The disease recurred in six months after operation.

Case 20.—F. St. J——, ætat forty-four; admitted on January 4, 1894, under my care, into the Cancer Hospital,

suffering from cancer of the uterus. Complains of great pain in the lower part of abdomen. Per vaginam the cervix feels hard, and os thickened and eroded. Body of uterus feels enlarged. Some bosses felt on the posterior surface of uterus; sound passes $3\frac{1}{2}$ inches. Some foul vaginal discharge.

January 9, 1894.—Under ether, vaginal hysterectomy performed. Both ovaries and tubes also removed.

February 14.—Patient discharged; wound quite healed. No recurrence of disease.

Case 21.—A. M——, ætat thirty-one; admitted into the Cancer Hospital on January 29, 1894; under my care; suffering from carcinoma of the cervix. No family history of cancer.

History.—Patient is married, has had four children, the last child born five years ago. Has suffered from foul vaginal discharge for the last three or four months; the discharge has latterly become stained with blood. Has had very little pain, and states she has not lost flesh latterly.

Present Condition.—Very pale, anæmic-looking woman. On vaginal examination there is a large cauliflower growth on the cervix. The disease extends rather more on the right side; uterus freely movable; vagina not diseased.

Operation.—On January 30, 1894, under ether, vaginal hysterectomy was performed. Patient made a good recovery, and was discharged February 28. The disease recurred within six months.

Case 22.—E. J. C——, ætat sixty-two; admitted into the Cancer Hospital on February 10, 1894, suffering from sarcoma of the body of the uterus.

Family History.—Mother died of cancer of the liver.

History.—Patient has had a very offensive discharge and pain in the back and lower part of abdomen for the last six months. On November 27, 1893, at the Samaritan Hospital, the cervical canal was dilated and the uterus explored; some soft growth was scraped away for microscopic examination, which subsequently proved to be malignant.

Present Condition.—Very emaciated-looking woman; heart and lungs normal. On vaginal examination the vaginal canal was found to be very small. The cervix feels healthy, and the uterus bimanually is freely movable, and

not appreciably enlarged; examination causes much pain. There is a foul discharge; the speculum not used, on account of smallness of vagina.

February 20.—Under ether vaginal hysterectomy was performed; the perinæum was first divided, on account of the smallness of vaginal outlet. Unfortunately, in this case the recto-vaginal septum was torn, and a fistula established. This was closed subsequently by operation. On section of the uterus, which was only slightly enlarged, there was a diffuse soft growth, forming more or less irregular projections on the surface of the mucous membrane. The growth was most abundant near the orifices of the Fallopian tubes.

February 28.—Patient rapidly recovering. Patient continues free from any recurrence.

Case 23.—E. C——, ætat forty-four; admitted into the Cancer Hospital on February 19, 1894; under my care; suffering from epithelioma of the vulva and carcinoma of the cervix uteri. No family history of cancer. Patient has been married twenty-three years, has had thirteen children, no miscarriages; the last child four and a half years ago; has had vaginal discharge for the last six months, which latterly has become more watery and offensive. Patient first noticed growth of vulva about six months back, which has been growing steadily since; has lost much flesh and strength lately; has suffered very little pain. Sent to me by Dr. Sunderland.

Present Condition.—Fairly well-nourished woman. In the left labium is a growth about the size of a hen's egg; the growth has ulcerated, and has hard everted and sinuous edges. Per vaginam, in the situation of external os, is an ulcerated cavity, admitting the tip of the finger; the walls of cavity are formed by hard tissue; the uterus is freely movable, and the vagina is free from disease.

February 27.—Under ether the growth from the vulva was first freely excised. Vaginal hysterectomy was then performed.

Patient made an excellent recovery, and was discharged March 21. Patient is free from recurrence.

Case 24.—L. M——, ætat forty-seven; single; admitted on March 7, 1894, under my care, into the Cancer Hospital, suffering from carcinoma of cervix uteri. No family history of cancer.

History.—Patient has had a foul discharge from the vagina for the last eight months, which latterly has become more watery and is sometimes blood-stained; has suffered very little pain. Saw Dr. Cullingworth at St. Thomas's Hospital in February, 1894, who sent her to me.

Present Condition.—Somewhat advanced cancer of cervix uteri; uterus not fixed; disease extends more to the left side.

March 13, 1894.—Under ether vaginal hysterectomy performed.

April 13.—Patient discharged, wound firmly healed; no discharge or pain. Disease recurred in this case somewhat rapidly.

Case 25.—E. B——, ætat thirty-one; married, six children, youngest two years; admitted on March 8, 1894, into the Cancer Hospital; under my care; suffering from cancer of the uterus.

Family History.—Uncle, on father's side, had cancer of stomach.

History.—Has had foul vaginal discharge since November, 1893; has had pain in lower part of abdomen for the last month; a large cauliflower growth of cervix; uterus freely movable; vaginal walls not affected with disease.

March 13.—Under ether vaginal hysterectomy performed. The uterus was easily pulled down with vulsella forceps; uterine arteries tied with silk; the cut edges of peritoneum were pulled down with forceps; glass drainage-tube used, and vagina packed around tube with iodoform gauze; operation lasted half an hour.

March 14.—Glass drainage-tube removed.

March 15.—Iodoform gauze removed.

March 17.—Patient very sick and somewhat collapsed; bowels not open since operation; ordered ℥ss. of sodii sulphatis in hot water.

March 18.—Bowels still not open; vomiting more severe; some abdominal distension; no tenderness; ordered an enema.

March 19.—Patient getting worse; vomiting and abdominal distension more severe; vomiting not fæcal. Abdominal section performed; a portion of small intestine was discovered strangulated by a piece of adherent omentum. The gut was released, and the omentum was ligatured

in two or three places and cut off. The peritoneal cavity was washed out with salt solution. Keith's drainage tube was used.

March 20.—Patient died from shock; no peritonitis at post-mortem examination.

Case 26.—S. M——, ætat fifty-four; married, ten children and two miscarriages; admitted on May 30, 1894, under my care, into the Cancer Hospital, suffering from cancer of the body of uterus. No family history of cancer.

History.—Patient has had a foul vaginal discharge for the last eighteen months, and for the past three months has had much pain in the lower part of the abdomen; was in the Sussex County Hospital, Brighton, during March, 1894, under Dr. Paley's care, who is reported to have removed some scrapings from interior of uterus, which microscopic examination proved to be cancerous.

Present Condition.—Cervix feels small and atrophied; body of uterus felt bimanually feels very hard; movable; not enlarged; blood-stained discharge from os.

April 10.—Under ether vaginal hysterectomy performed.

May 3.—Patient discharged; wound firmly healed.

Case 27.—F. R——, ætat fifty-seven; married, three children. Dr. Walker asked me to see this patient with him in April, 1894. Patient always enjoyed good health until four years ago, when she had some violent hæmorrhage and she felt a tumour in her abdomen. She consulted a specialist for this, and a fibroid sloughed from the uterus. From that time until a few months ago she kept fairly well, when she noticed a discharge, and experienced a good deal of pain in getting about.

Present State.—There is a well-marked tumour, readily felt, deeply situated in the pelvis; the parietes are flaccid, and admit of ready examination; the os feels healthy, no erosion or ulceration; uterus readily movable. The growth is evidently in the body of the uterus. There is a sanious, badly-smelling discharge from os. Sound passes four inches.

Combined vaginal and abdominal hysterectomy performed on April 19. The combined operation was necessitated from the size of the growth. The patient made an excellent recovery, and is now able to get about well, and is free from recurrence. Microscopic examination—sarcoma.

Case 28.—S. L——, ætat fifty-six; married, three children; consulted me in April, 1894; has suffered for some time from hæmorrhage at intervals. Menopause nine years ago.

Present Condition.—Os papulous; body of uterus enlarged, and somewhat soft to the touch; bleeds readily; cervix slightly dilated; no ulceration or erosion of os.

Vaginal hysterectomy April, 1894. Patient made an uninterrupted recovery, and is now quite free from any sign of recurrence.

Case 29.—H. K——, ætat fifty-four, was admitted to the Cancer Hospital, under my care, on July 8, 1893, suffering from a large fibro-myoma of the uterus. Patient is married, and has eight children; the last child was born twelve years ago.

History of Illness.—Patient has had swelling of abdomen, and constant attack of hæmorrhage from the vagina, for the last twelve or thirteen years. The attacks of hæmorrhage latterly have become much more frequent and more severe, and are seriously undermining patient's health.

Present Condition.—Patient is a fairly well-nourished woman of average height, markedly anæmic. There is a rounded tumour felt in the lower part of abdomen, rising out of the pelvis, about the size of a fœtal head. The tumour feels as though it were solid, is centrally situated, and is smooth on the surface. On bimanual examination, the tumour is clearly the enlarged uterus. The uterine sound was not passed.

July 13, 1893.—Under ether an incision was made in the middle line of abdomen, about four inches long, and commencing just below the umbilicus. The peritoneal cavity was opened along the whole length of incision in the usual way. The tumour then appeared in the wound about the size of a fœtal head. The broad ligaments were securely tied on each side with silk. Small anterior and posterior flaps were then dissected from the tumour with scissors in the direction of the vaginal fornices. A long Ferguson speculum was introduced into the vagina and held in place by an assistant and the vaginal roof opened. When the uterine arteries were reached they were tied with silk in two places and divided between. The vaginal fornices were then cut through from above, and the whole uterus was

removed *en masse*. The bleeding points in the stump were tied with silk, and the ligatures, left long, were drawn through the opening made in the roof of vagina. The two flaps had silk ligatures passed through them from without inwards, so that the ends of ligatures passed from the raw surface over peritoneal surface. They were not tied, but were also pulled through the roof of vagina, so as to turn in the two peritoneal surfaces of the flaps. The vagina was then packed with iodoform gauze; a winged catheter was left in the bladder. The operation lasted about an hour and a half. The growth was chiefly in the anterior wall of the uterus. Patient made a good recovery, and was discharged August 1.

Case 30.—K. F——, ætat forty-five; admitted on January 17, 1894, suffering from fibroid tumour of the uterus, with retroflexion; under my care.

History.—Patient has been married nine years, no children or miscarriages; has had most severe bearing-down pains for the last eight or ten months. During the last two months the pain has become almost unbearable. Patient was in this hospital September, 1893; was then examined under ether. The uterus was felt firmly retroflexed in the pelvis; some bosses were felt on the surface of uterus, which was considerably enlarged; the uterus could not be replaced by the sound. Patient has tried various pessaries without any relief; is regular in her periods, though she has always suffered much pain. Does not lose much.

January 23.—Under ether the uterus was with much difficulty removed through the vagina.

January 26.—Patient doing extremely well. To be syringed out every morning with iodine water through a Ferguson's speculum, and a strip of iodoform gauze replaced.

February 24.—Patient discharged convalescent.

Remarks.—From a perusal of these cases it will be noticed in four instances a recurrence of the disease *in situ* took place within six months, the patients dying within the year. These cases, therefore, may be said to have derived no benefit from the operation, and therefore were unsuitable cases for operative interference. Two cases died directly from the operation. The cause of death in one case was septic peritonitis, in another intestinal obstruction due to

the omentum becoming attached to the opening in the roof of the vagina. Two cases had carcinomatous deposits elsewhere, one in the large intestine causing obstruction, and the other presumably in the pylorus; in neither of these cases was there any return of the disease locally.

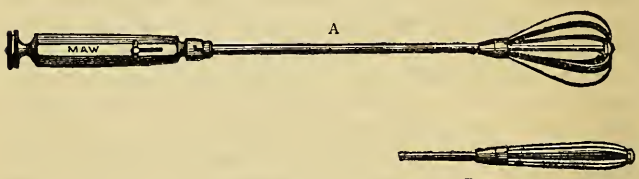
Three cases were free from recurrence two years after operation; in all of these the disease was apparently limited to the os and cervix uteri. One case was free from recurrence eighteen months after operation.

The lessons to be learnt by the histories of these cases is the importance of early diagnosis, as if the disease has extended to the broad ligaments, or into the cellular tissue around the cervix, it is pretty certain to return very quickly, and I would impress on all practitioners the absolute necessity of vaginal examination in all cases in which a patient presents herself suffering from vaginal discharge. In women who have passed the menopause, should they complain of hæmorrhage ever so slight, or purulent discharge, perhaps streaked with blood, it is almost certain that they are suffering from malignant disease of the uterus in some form or the other. The fact of the os and cervix being free from any sign of ulceration is often most deceptive. But a case must never be allowed to pass if there is bleeding, without a thorough examination of the uterine cavity as well as the portio vaginalis. If such a plan were adopted, and became a recognised rule, many a poor woman's life might be saved from the horrible scourge of cancer of the uterus.

TEN CASES IN WHICH EXTENSIVE CARCINOMA OF THE UTERUS WAS TREATED BY CAUSTICS.

The cases embodied under this head were all very advanced cases, and all were relieved by removing the disease with the dredger and caustics, as described in the page 23, and were discharged in most instances without any appreciable amount of the disease being recognisable by most careful examination. Many of these patients remained free from recurrence for some time, and some are still apparently free from disease.

In two of the earlier cases the caustic ate through into the rectum, and caused considerable trouble; but in the later cases, with more experience in applying the caustic, this disaster has not occurred.



URETERINE DREDGER.

(A) Instrument opened. (B) Instrument closed.

The pain after the application is in nearly all cases not complained of; indeed, in most cases the patients express themselves the next morning as free from pain, and as having been relieved of the terrible pain they had experienced before.

All that can be claimed for this form of treatment at present is that the patients' lives are prolonged, and they are relieved of much suffering, and from the horrible offensive discharge and bleeding. They gain flesh, and are in every respect improved in health.

I am indebted to Mr. West, my house-surgeon, for the notes of all these cases.

Case 1.—H. M——, ætat forty-six; widow, three children, youngest twenty-three; admitted with advanced

cancer of cervix uteri, on May 18, 1893, into the Cancer Hospital.

May 21, 1893.—Under ether, as much disease as possible was scraped away with uterine dredger, and the uterine cavity packed with chloride of zinc wool; vagina packed with tampons soaked in a saturated solution of bicarbonate of soda.

May 23.—Tampons removed from vagina.

May 26.—Chloride of zinc wool removed.

May 30.—Large slough removed. An entire cast of uterus.

July 1.—Patient discharged; no discharge and free from pain.

Case 2.—M. T——, ætat sixty-four; married, one child; admitted on June 1, 1893, into the Cancer Hospital, suffering from advanced cancer of cervix uteri.

June 6.—Under ether, growth scraped with the dredger, and uterus packed with chloride of zinc wool; vagina packed with tampons soaked in a saturated solution of bicarbonate of soda.

June 8.—Vaginal tampons removed.

June 11.—Chloride of zinc wool removed.

June 13.—Large slough removed from uterine cavity.

June 28.—Uterus packed again with zinc chloride wool.

July 1.—Zinc chloride removed.

July 3.—A slough composed of entire cast of uterus removed.

July 13.—Patient discharged, very much improved; no pain or discharge to speak of.

Case 3.—M. M——, ætat thirty-eight; married, has had twelve children, the last child born eighteen months ago; admitted on June 10, 1894, into the Cancer Hospital, suffering from advanced cancer of cervix uteri.

June 17.—Growth scraped away as much as possible with the uterine dredger, and uterus packed with chloride of zinc wool; vagina packed with tampons soaked in a saturated solution of bicarbonate of soda.

June 19.—Tampons in vagina removed.

June 20.—Chloride of zinc wool removed, and uterus well syringed out through Ferguson's speculum with iodine water.

June 28.—Chloride of zinc wool again packed into uterine cavity.

July 3.—Chloride of zinc wool removed.

July 7.—Large slough removed.

July 20.—Patient discharged much improved; very little discharge or pain.

Case 4. — M. P——, ætat forty-three; married, has had one child, twenty-three years ago; admitted on September 20, 1893, with advanced cancer of uterus.

September 25.—Under ether, disease as much as possible scraped with uterine dredger, and cavity packed with some freshly-prepared chloride of zinc paste. Vagina packed with wool soaked in saturated solution of sodium bicarbonate.

September 30.—Zinc paste and wool removed from uterus.

October 7.—Slough, comprising whole of uterus, removed *en masse.* Posterior wall of vagina also sloughed, as patient had troublesome recto-vaginal fistula. Inguinal colotomy performed on October 31, 1893.

December 4.—Patient discharged; no disease felt.

Case 5.—L. P——, ætat thirty-eight; married, fourteen children, eleven living; admitted with advanced cancer of uterus on September 16, 1893.

September 26.—Under ether disease scraped with dredger, and cavity packed with wool soaked in a freshly-prepared paste of chloride of zinc. Vagina packed with tampons soaked in a saturated solution of bicarbonate of soda.

October 1.—Zinc chloride wool removed.

October 7.—Slough, comprising whole of uterus, removed *en masse.*

December 11, 1893. — Patient discharged; much improved.

Case 6. — R. S——, ætat thirty-seven; married, three children, the last child born eight years ago; admitted on September 20, 1893, into the Cancer Hospital, suffering with advanced carcinoma uteri.

September 26, 1894.—Disease scraped away as far as possible with dredger. Uterine cavity packed with a chloride of zinc paste freshly prepared. Vagina packed with tampons soaked in saturated solutions of bicarbonate of soda.

October 7.—Slough, comprising entire uterus and posterior wall of vagina, removed *en masse.*

November 20.—Patient discharged; wound quite healed. On making vaginal examination, the vagina is found to end in a blind pouch, about an inch and a half long; no disease felt anywhere; patient expresses herself as quite well.

Case 7. — S. B——, ætat forty-six; married, two children, youngest twenty-one years; admitted with advanced cancer of uterus on October 25, 1893.

November 1, 1893.—Under ether, as much disease as possible scraped away with uterine dredger, and cavity thus made packed with chloride of zinc wool.

November 5.—Zinc wool removed.

November 8.—Large slough removed.

November 9.—Uterus packed again with zinc chloride wool.

November 13.—Wool removed.

November 17.—Another large slough removed.

November 23.—Patient discharged; much improved; very little discharge.

Case 8. — E. M——, ætat fifty-three; married, one child, twenty-six years ago: admitted into the Cancer Hospital on January 12, 1894, suffering from advanced cancer of uterus.

January 16.—Under ether, the disease as far as possible was scraped away with the uterine dredger, and the cavity thus made was packed with zinc chloride wool saturated in freshly prepared chloride of zinc paste. The vagina was packed with tampons soaked in a saturated solution of bicarbonate of soda.

January 20.—Zinc wool removed; well syringed out with iodine water through Ferguson's speculum.

January 23.—Large slough removed.

February 22.—Patient discharged; much improved; expresses herself as well.

Case 9. — M. C——, ætat fifty-four; widow, nine children; admitted on March 7, 1894, with advanced cancer of uterus.

March 20, 1894.—Under ether, disease scraped away as far as possible with dredger, and packed with chloride of zinc wool.

March 25.—Chloride of zinc wool removed; well syringed with iodine water through Ferguson's speculum.

March 27.—Large slough, comprising cast of entire uterus, came away.

April 12.—Patient discharged; has no pain or discharge.

Case 10. — A. L——, ætat forty-two; married, ten children, one miscarriage; admitted on March 28, 1894, with advanced cancer of uterus.

April 3, 1894.—Under ether disease scraped away as far as possible with the uterine dredger, and cavity packed with chloride of zinc wool; vagina packed in the usual way.

April 7.—Chloride of zinc wool removed; vagina well syringed out with iodine water through a Ferguson's speculum.

April 9.—A large slough removed.

April 21.—Patient discharged much improved.

A

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